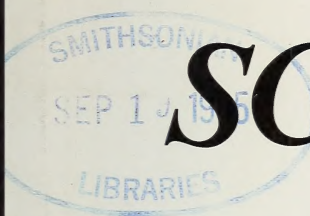


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SCOPUS

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Edited by
Graeme Backhurst

SCOPUS

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SCOPUS

EDITORIAL

We are sorry about the delays in the appearance of recent issues but would like to thank our subscribers for remaining loyal and continuing to support *Scopus*. The delays have been caused by circumstances beyond our control and we hope that future numbers will be punctual. The present issue is a double-sized one and we will make sure that the number of words in a year's *Scopus* does not decrease.

Submission of papers and short communications continues at a healthy rate, showing that contributors value *Scopus* as a suitable repository for the documentation of their work and observations. The lapse in the abstracting of papers from *Scopus* in *Ibis* (and more recently in the 'Recent Literature' supplements of *The Auk* and *Ibis*) will soon be remedied.

The Kenya postal authorities raised postage rates at the beginning of the year without any warning. Worst hit are the foreign airmail printed paper rates - to Africa up 150 per cent, to Europe up almost 186 per cent and to the Americas, the Far East and Australia up 150 per cent. Surface rates to foreign countries (for a 100 g issue) are increased by a mere 60 per cent. To a certain extent these increases have been mitigated by the strong US dollar, in which a number of subscriptions are received, but this is not a complete solution and we will do our best to ensure that subscribers get the delivery times they have paid for. Inevitably though, subscription rates will have to be raised for 1986 and details will be published during the year.

A word about the changed format. From this issue type size has been increased by a little over 11 per cent, and we hope that readers will approve. The space between the running headline and the first line of type has been reduced and the extra space between paragraphs introduced in September last year will be retained. From volume 9 only the first page of the first issue will be headed distinctively.

Sales of the first *Scopus* special supplement *Birds of Somalia* have been encouraging. The second in this series, on the birds of the Kampala area, will be published later in the year and plans for the third title are well advanced towards publication in 1986.

The series of tick-off check-lists covering East Africa has recently been completed with the publication of a *Check-list of the birds of Uganda*. A second edition of the Kenya check-list will be available in the next few months.

THE ECOLOGY OF THE LAND-BIRDS OF TSAVO EAST NATIONAL PARK, KENYA

Peter Lack

For the majority of land-bird species (indeed of all birds species) occurring in East Africa all that is known about their habitat preferences, seasonal occurrence and feeding ecology is what is contained in the various handbooks (e.g. Mackworth-Praed & Grant 1957, 1960), and annotated check-lists (e.g. Britton 1980). A few groups have received some more detailed attention: the birds of prey, by, for example Brown (1966) and Smeenk (1974), and the Palaearctic migrants by for example Pearson (1972), Britton (1974), Pearson & Backhurst (1976) and Sinclair (1978). However, for the migrants, only Britton (1974) did more than discuss the timing of movements. With a few notable exceptions the rest of Africa is in a similar situation.

The seasonal occurrence and habitat preferences of all bird species in Tsavo East National Park are mentioned very briefly by Lack, Leuthold & Smeenk (1980). The present paper serves to expand information on these features of the ecology of the land-birds, excluding the birds of prey, and provides the census figures on which the ecological interpretations are based. Where there are sufficient data, some information on feeding ecology is also given.

One of the central tenets of competition theory is Gause's competitive exclusion principle where "complete competitors cannot coexist" (Hardin 1960). Although there is currently considerable argument about the role of competition in structuring communities (e.g. Cody 1974, several authors in Keast & Morton 1980) it is a convenient way of pointing to important aspects of the ecology of the various species. Consequently, discussion in this paper will concentrate on differences between closely related species, with the species grouped usually into families.

STUDY AREA

Tsavo East National Park is an area of about 13 000 km² lying between about 80 and 150 km inland from the Kenya coast. It is divided into two parts by the Galana River. As with most previous work in the Park, the vast majority of the data for this study were collected in the part south of the river, and especially in the western half.

Climate

As in most parts of the tropics, Tsavo's seasons and climate are dominated by the rainfall. There are usually two wet seasons and two dry seasons each year. The so-called 'short' rains usually start during the first half of November and last through December. There is then the short dry season until late March, the 'long' rains during April, and from mid May to the end of October the long dry season. On average about half the annual total of rainfall falls in each wet season

(total varies from about 250 mm/yr at Aruba and to the east, to about 500 mm/yr on the west side near Voi) although in both years of this study, 1975 and 1976, the April rains were very poor. This feature may not be particularly unusual as, contrary to much of the rest of Kenya, the 'short' rains in the Tsavo area have been shown mathematically to be more reliable and predictable (Tyrell & Coe 1974).

The two dry seasons differ slightly in that during the long dry season the sky is more often overcast, the temperature is about 5°C cooler and there is a much stronger wind. In 1976 too this dry season was broken by a total of 50 - 100 mm of rain over a few days in early September. For more details of the temporal and spatial features of the climate see Cobb (1976), Leuthold (1977) or Lack (1980, 1983).

The habitats

A major scheme for classifying East African habitats was proposed by Pratt, Greenway & Gwynne (1966), and this was used in the present study as a basis for defining the habitats in Tsavo East. The Park falls into Pratt et al.'s ecological zone V which is characterized by a semi-arid climate with the "woody vegetation dominated by *Commiphora* and *Acacia* and allied genera often of shrubby habit" (Pratt et al. 1966, p. 371). Within this zone, Pratt et al. designated physiognomic types based on canopy cover of woody vegetation. The authors were mainly concerned with rangeland, and hence the amount of grass, and chose their critical values of canopy cover of woody vegetation at 2 per cent and 20 per cent. For birds the woody vegetation is a more important factor than grass, especially at low canopy cover. Critical values were chosen, therefore, at 1 per cent and 10 per cent canopy cover to define six main habitat types as follows: Grassland (G) less than 1 per cent trees, less than 1 per cent bushes; Bushed Grassland (BG) less than 1 per cent trees, 1 - 10 per cent bushes; Wooded and Bushed Grassland (WBG) 1 - 10 per cent trees, 1 - 10 per cent bushes; Bushland (B) less than 1 per cent trees, more than 10 per cent bushes; Wooded Bushland (WB) 1 - 10 per cent trees, more than 10 per cent bushes; Woodland (W) more than 10 per cent trees, variable, but usually more than 10 per cent bushes. A seventh habitat type was also defined - the small area of Riverine forest (R) along the Voi River extending to about 15 km east into the Park from Voi. The first five of these habitats (G, BG, WBG, B, WB) are referred to collectively as the Park savanna habitats (PSH).

When the Park was gazetted in 1948 the dominant vegetation type was Woodland (Napier Bax & Sheldrick 1963). This habitat is not now found in the southern area of the Park although it remains in areas just outside to the south and west near Voi and in parts of the northern area. The habitat type is dominated by *Commiphora* spp. (mainly *C. africana*) and *Acacia* spp. with a canopy at 7 - 8 m. The bush layer varies from very open to nearly impenetrable thickets, with *Grewia* spp. and *Sansevieria* spp. prominent. In the Park grasses are usually sparse or absent due partly to heavy grazing by wild mammals or, especially outside the Park, by domestic animals.

The most common habitats now inside the Park are Bushed Grassland and Wooded and Bushed Grassland. Together, these cover nearly three-quarters of the total area. The two thicker habitats, Bushland and Wooded Bushland, are mainly in the western part, and Grassland is rare. This radical change in habitat type over the last 35 years has been brought about particularly by fires and elephants. These changes have also resulted in changes in the species composition of the vegetation. *Commiphora* and *Acacia* are now almost absent and the main trees are *Melia volkensii*, *Delonix elata* and *Platycephium voense*. The bush layer is now dominated by *Premna* and *Sericocompsis*. With the opening up of the woody vegetation grasses of several species have greatly increased and are now a prominent feature of the habitat in many places.

The Riverine forest is rarely more than 150 m wide and has a nearly closed canopy at about 20 m, consisting especially of *Newtonia hildebrandtii*, *Dobera glabra*, *Ficus* spp. and *Acacia* spp. In most places there is a very dense bush layer. Grasses are very thick and matted around the edges, but sparse in the forest itself.

There are very few sources of permanent water in the Park. The main ones are the Athi, Tsavo and Galana Rivers, Aruba Dam, and some pools in the upper reaches of the Tiva River in the northern area. Minor sources include a few artificially enlarged waterholes near the Voi River, and a few pools in the tributaries of the Galana. This lack of water considerably restricts the distribution of most mammals in the dry season, and perhaps a few birds. In the wet season the situation changes drastically. Seasonal rivers start to flow, the most important being the Voi and the Tiva, and numerous shallow pans fill and hold water for varying periods; the majority of these pans are dry by a month after the last rain.

Food supplies and their seasonal variation

There were five main food types used by the land-birds in the Park: fruit, nectar, grass seeds, arthropods (mainly insects) and small vertebrates. The last of these was unimportant for any except birds of prey, which are not considered here in any detail.

The relative abundance of nectar, fruits, seeds and arthropods was measured through the year in 1976. How typical this year was is unknown in detail. The data for *Commiphora* woodland agree broadly with those given by Fenner (1983) for fruit and flowers, and the seasonal occurrence of the rain was as usual in 1976, although the amounts were below average.

Nectar was important only for the sunbirds Nectariniidae. In Woodland and Riverine, flowers of a variety of woody plants were visited, and there was no very obvious seasonal pattern in the occurrence of flowers. In the Park Savanna Habitats only *Delonix elata* and *Platycephium voense* produced flowers that were visited at all regularly. *D. elata* produced flowers at the end of both wet seasons and *P. voense* only in late March just before the April rains.

Rather few fruits seemed to be important in the diet of birds and there were three main seasonal patterns:

1. *Grewia bicolor* in Woodland, and *Premna* spp. in the Park savanna habitats produced fruits in the later parts of both wet seasons.

2. Some *Commiphora* spp. fruits (in Woodland only) were available all the year but there was a major peak in the abundance from July to September. *Salvadora persica*, only occurring in or near Riverine, had fruited only in July and August with none available at other times.

3. *Ficus* spp. (in Riverine only) appeared to fruit at any season although it is not known whether or not there were always one or more trees in fruit.

Some other fruits were eaten by birds, particularly in Woodland. Some fruits were probably available there all the year although there were probably more of species other than *Commiphora* in the wet season. The major peak of fruit abundance in Woodland was certainly between July and September, due to the *Commiphora*.

Grass seeds on stems showed a major peak in abundance in January and February (the two months following the 'short' rains) with smaller peaks following the poor 'long' rains (June) and any unseasonal rain, e.g. some seeds appeared in mid to late October following the rain in September 1976. The abundance of seeds on the ground was not measured but the peaks are likely to have been slightly later. The only period when they would not be available is likely to have been the first month of each wet season, due to germination. The effect found by Thiollay (1971) of grass cover hiding seeds on the ground is not important in Tsavo as the grass cover is rarely very high, due both to a lower total rainfall and the high grazing pressure.

The seasonal abundance of arthropods will be described in more detail elsewhere (Lack & Cockerell in prep.). By using pitfall traps and sweep-netting, arthropod biomass on the ground and in the grass layer vegetation respectively were found to increase by a factor of five or six in the December wet season compared with the dry season. By March the abundance in both had declined to their October levels. There was another increase in response to the April rains, but in 1976 this peak was lower than the December one. In years with more rain in April it may be larger.

The abundance of arthropods in the woody vegetation was not measured. In a similar area of Senegal, Morel (1968) found factors of 17 and 60 in two years for the biomass in the wet season compared with the preceding dry season. He did not, however, assess arthropods in the bark, only those on the leaves, so the difference between wet and dry seasons is considerably exaggerated.

METHODS

Censuses

The most important data for this study were the numbers of birds in

the various habitats in the different seasons. For this censuses were conducted which gave a relative abundance figure based on the numbers seen per unit time. All censuses were in units of 15 min, and the habitats were censused approximately in the proportion that each occurred in the whole area. The study period was divided into 25 calendar months from December 1974 to December 1976 inclusive, and the length of time spent censusing in each habitat in each month is given in Table 1.

TABLE 1

Number of 15-min censuses carried out in each habitat in each month

Year/months	Habitat							Total
	G	BG	WBG	B	WB	W	R	
1974: December	9	15	34	5	19	21	13	116
1975: January	13	32	28	19	21	29	17	159
February	12	59	32	18	13	27	13	174
March	9	21	27	13	13	23	7	113
April	11	40	38	16	13	26	11	155
May	8	27	38	9	25	13	11	131
June	12	33	33	21	18	26	7	150
July	7	22	28	15	10	19	8	109
August	5	15	31	7	24	13	8	103
September	10	31	36	22	14	22	7	142
October	8	35	34	16	13	14	6	126
November	12	27	36	21	14	26	8	144
December	5	5	18	8	10	19	8	73
1976: January	7	20	17	12	8	26	8	98
February	4	12	12	6	8	13	7	62
March	2	22	38	10	23	27	7	129
April	6	29	12	13	29	30	7	126
May	9	19	24	10	8	17	12	99
June	2	17	26	10	6	12	6	79
July	4	20	21	13	28	34	10	130
August	4	18	24	3	7	10	6	72
September	2	22	12	4	4	15	6	65
October	3	14	34	7	7	18	6	89
November	4	23	30	6	10	17	7	97
December	0	4	18	1	1	18	7	49
Totals	168	582	681	285	346	515	213	2790

Key: G = Grassland, BG = Bushed Grassland, WBG = Wooded and Bushed Grassland, B = Bushland, WB = Wooded Bushland, W = Woodland, R = Riverine

In censuses all birds seen and identified were counted while those only seen flying over were recorded separately. In addition, a list of

species that were only heard was made. All censuses were conducted between sunrise and 11:00.

The 15-min units were walked to the following patterns:

1. All Park savanna habitats: censuses were carried out at 1- or 2-km intervals along Park roads with the first one of a series taken at the first change of the car's odometer after a fixed point, usually a road junction. For the census itself the path walked varied a little but was usually a complete semi-circle (i.e. including the diameter which was the road) of radius about 150 m. This gives the area sampled in the 15 min as approximately 8 ha.
2. Woodland: almost all censuses were carried out while walking along existing paths, dividing these into 15-min units.
3. Riverine: due to the nature of the habitat a variety of methods was used. Where possible, and not potentially too dangerous, the author walked along the edge of, or through, sections of the forest in units of 15 min. In several cases, however, the counts were made while standing more or less stationary at one point.

The biggest problem with all comparisons of censuses is that of bird conspicuousness. In this study potential difficulties come under three headings:

1. Comparing species: the most important comparisons are between closely related species. These are usually similar in such characteristics as behaviour, amount of noise, bright colours, and are hence conspicuous to a similar degree.
2. Comparing seasons: in Tsavo there are in effect two seasons - wet and dry. In the wet season the leaves make all habitats more difficult to see through. Hence caution has to be exercised when a bird is apparently more common in the dry season.
3. Comparing habitats: those habitats with more vegetation are more difficult to see through than more open ones. Hence only the figures for those birds apparently more common in the open habitats need concern us. As will be seen, many more species show an increase in the denser habitats, and for those predominantly in the open there is usually general evidence from the literature and from feeding habits that they do indeed prefer them.

No corrections have been made for differing conspicuousness, largely because any would be very arbitrary. Differences certainly exist and may affect the fine detail of some of the figures presented here, but they do not affect the gross differences or arguments to be presented.

Feeding behaviour

During censuses and at other times observations of birds seen feeding were recorded. Data collected included the type of food where it was possible to identify this from observations; whence and how the food was obtained; activity of the bird (perched, flying, etc.); position in the vegetation and/or position before and after the feeding move-

ment, amplified by recording the height of the vegetation and the height of the bird in it and the horizontal position of the bird in the vegetation - if the bird was feeding in the woody vegetation it was assigned to the edge (up to 0.2 m into the vegetation), just inside (c. 0.2 - 1.0 m in), or inside (more than 1 m in) - these three categories correspond roughly with the terminal twigs, larger twigs, and branches (including the trunk) respectively. The feeding rate was also recorded for birds which fed by sitting and waiting on perches and then flying out, either to catch insects in the air or on the ground, and sometimes the feeding rate was determined by watching individual birds for up to 15 min.

It was often difficult (and would sometimes be misleading) to count the number of individual food items eaten. When a bird was 'seen feeding' at a site it was scored five items. However, when calculating vertical and horizontal position in the vegetation, only one figure per bird was scored - for horizontal the predominate one, for vertical the mean.

THE LAND-BIRDS

Lack *et al.* (1980) have recorded 324 species of land-birds in Tsavo East. About half of these have been seen too rarely for any quantitative analyses and only the more common species are considered here in detail. A list of the others recorded is given at the end of each section. For brief details of the status and records of these, and the common species, see Lack *et al.* (1980). Data on relative abundance of birds in each habitat are given in Table 2 and for each month in Table 3. All bird nomenclature follows Britton (1980).

Ostrich Struthionidae

From an ecological viewpoint the Ostrich *Struthio camelus* can be classed as a large herbivorous mammal, and Cobb (1976) included it in his survey of these. Cobb found, from aerial surveys, that it was primarily an open country species although the race in Tsavo East, the Somali Ostrich *S. c. molybdophanes*, is tolerant of thicker scrub than the other race occurring in Kenya, *massaicus*. The Somali race is also thought to be more of a browser than other races (Mackworth-Praed & Grant 1957).

Gamebirds Phasianidae, Guineafowl Numididae

Two common *Francolinus* species, the Yellow-necked Spurfowl *F. leucoscepus* and the Crested Francolin *F. sephaena*, were both present all the year although the Yellow-necked Spurfowl was a little more obvious in the wet seasons, perhaps because it was more vocal then. Both species preferred the thicker habitats, with the Yellow-necked Spurfowl primarily in Riverine and Wooded Bushland, and the Crested Francolin primarily in Woodland. The Helmeted Guineafowl *Numida meleagris* also occurred rarely in the thicker habitats, especially Woodland. The very few of all three species seen feeding fed entirely from the ground. Swank (1977) analysed stomach contents of all three in Mkomasi Reserve just to the south of Tsavo West, in Tanzania. He found all three to be primarily vegetarian although insects, especial-

ly termites, formed 25 - 30 per cent of the diet of the two *Franco-linus* and 10 per cent for the Helmeted Guineafowl.

The final common species of these two families, the Harlequin Quail *Coturnix delegorguei*, is totally different from the other three. It is much smaller and it occurred mainly in the open habitats although always where there was a high grass cover. Also, in contrast to the others, it is highly migratory. It was present in very large numbers in December and January when the grass cover was highest and a few were seen in October and November and between February and May. It is well-known as a migrant and apparently breeds opportunistically when conditions are favourable (Britton 1980). As far as is known it feeds almost entirely on grass seeds taken from the ground.

Other species recorded: Hildebrandt's Francolin *F. hildebrandti*, Kenya Crested Guineafowl *Guttera pucherani*, Vulturine Guineafowl *Acryllium vulturinum*.

Button Quails Turnicidae

The Quail Plover *Ortyxelos meiffreni* was probably much commoner than it appeared from censuses as the majority were only seen when flushed at very close range. It occurred in all Park savanna habitats though it was not seen in areas with a grass cover of less than about 25 per cent. It was not seen in Woodland and it is probably a species which has moved into the area with the opening up of the habitat (Lack 1975). As far as is known it eats grass seeds.

Other species recorded: Button Quail *Turnix sylvatica*.

Bustards Otidae

The only common species was the Buff-crested Bustard *Eupodotis ruficrista*. It was a common resident in all habitats except Grassland and Riverine. It was very secretive but called frequently. It was heard in 52 per cent of all 15-min censuses so was certainly commoner than sightings would suggest.

Other bustards recorded: Hartlaub's *E. hartlaubii*, White-bellied *E. senegalensis*, Heuglin's *Neotis heuglini*, Kori *Otis kori*.

Plovers Charadriidae, Thicknees Burhinidae, Coursers Glareolidae
This group of long-legged insectivorous ground-dwelling species have similar ecology so are treated together. All may be at least partially nocturnal, especially the Spotted Thicknee *Burhinus capensis* and Heuglin's Courser *Rhinoptilus cinctus*. These two species, like the Buff-crested Bustard, are very secretive by day and were usually seen only when flushed at close range from the base of a bush. They had similar habitat preferences to the Buff-crested Bustard. The Spotted Thicknee was probably not very common but it is likely that Heuglin's Courser was much commoner than it appeared from censuses. The two species presumably do not compete seriously with each other as the thicknee is nearly four times the size of the courser. The next commonest courser, Temminck's *Cursorius temminckii*, was very much an open country species. Although only rarely seen in censuses (several were seen at other times) it was seen much more often between May and Oc-

TABLE 2

The number of each species/10 h in each habitat

Species	Habitat								Total
	G	BG	WBG	B	WB	W	R	PSH	
Yellow-necked Spurfowl	-	1	-	1	3	x	2	1	1
Crested Francolin	-	-	x	2	2	4	1	1	1
Harlequin Quail	6	8	12	7	6	1	2	8	7
Helmeted Guineafowl	-	-	-	x	-	1	x	x	x
Quail Plover	1	x	x	1	x	-	-	x	x
Buff-crested Bustard	x	2	3	4	2	1	-	2	2
White-bellied Bustard	1	x	x	x	x	-	-	x	x
Black-headed Plover	-	4	5	6	4	x	1	4	3
Crowned Plover	3	5	1	1	-	-	-	2	2
Caspian Plover	3	1	x	-	-	-	-	1	x
Spotted Thicknee	-	x	x	1	-	-	-	x	x
Heuglin's Courser	-	1	1	1	x	x	-	1	1
Black-faced Sandgrouse	-	21	18	19	12	1	-	16	12
Chestnut-bellied Sandgrouse	1	2	-	-	-	-	-	1	x
Red-eyed Dove	-	-	-	-	x	6	9	x	2
Ring-necked Dove	3	9	17	11	17	15	22	13	14
Laughing Dove	15	16	21	16	21	12	39	19	19
Namaqua Dove	x	3	6	1	2	x	-	3	3
Emerald-spotted Wood Dove	-	-	x	1	1	6	6	x	2
Orange-bellied Parrot	-	x	x	1	6	12	4	1	4
White-bellied Go-away Bird	-	-	-	x	2	15	-	x	3
Great Spotted Cuckoo	-	-	x	-	x	x	-	x	x
Black and White Cuckoo	-	x	1	x	1	2	x	1	1
Eurasian/African Cuckoo	-	x	1	1	2	1	2	1	1
Didric Cuckoo	-	x	2	x	1	x	1	1	1
White-browed Coucal	-	-	1	x	1	x	6	x	1
Speckled Mousebird	-	x	x	1	-	1	8	x	1
Blue-naped Mousebird	-	1	5	4	6	10	27	4	6
Striped Kingfisher	x	1	4	x	1	1	6	2	2
Chestnut-bellied Kingfisher	-	x	x	-	x	x	28	x	2
Eurasian Bee-eater	-	-	-	-	1	x	1	x	x
Madagascar Bee-eater	x	x	x	x	x	3	2	x	1
White-throated Bee-eater	2	1	1	-	-	-	9	1	1
Little Bee-eater	-	x	1	1	1	x	9	1	1
Somali Bee-eater	-	1	1	1	2	-	-	1	1
Eurasian Roller	8	6	7	5	6	3	1	7	6
Lilac-breasted Roller	1	2	2	1	1	x	10	2	2
Rufous-crowned Roller	-	x	x	x	1	x	2	x	x
Broad-billed Roller	-	-	-	-	-	-	4	-	x
Hoopoe	-	x	1	1	3	5	1	1	2
Green Wood Hoopoe	-	-	1	-	1	1	9	1	1
Abyssinian Scimitar-bill	-	x	3	3	4	5	-	2	2
Grey Hornbill	x	1	2	x	x	3	7	1	2

Continued opposite

Table 2, continued

Species	G	BG	WBG	B	WB	W	R	PSH	Total
Red-billed Hornbill	-	2	7	4	10	16	14	5	8
Von der Decken's Hornbill	-	x	2	1	6	35	6	2	8
Yellow-billed Hornbill	-	x	x	1	1	13	1	x	3
Brown-breasted Barbet	-	-	-	-	-	-	8	-	1
Black-throated Barbet	-	-	-	-	x	13	-	x	2
Spotted-flanked Barbet	-	-	x	-	-	x	8	x	1
Red-fronted Tinkerbird	-	-	-	-	-	2	2	-	1
d'Arnaud's Barbet	-	x	1	8	9	10	x	3	4
Red and Yellow Barbet	-	1	3	2	3	1	2	2	2
Greater Honeyguide	-	-	x	x	x	1	x	x	x
Lesser Honeyguide	-	-	-	-	x	1	2	x	x
Nubian Woodpecker	x	1	1	1	3	3	4	1	2
Cardinal Woodpecker	-	x	2	1	2	4	1	1	2
Bearded Woodpecker	-	-	x	-	x	-	3	x	x
Chestnut-backed Sparrow L'k	68	32	-	x	-	-	-	15	11
Chestnut-headed Sparrow L'k	77	52	43	4	7	-	-	37	27
Singing Bush Lark	5	3	x	1	-	-	-	1	1
Red-winged Bush Lark	44	15	6	2	x	-	-	10	7
Pink-breasted Lark	15	55	46	58	40	9	-	47	36
Friedmann's Bush Lark	x	x	x	-	x	-	-	x	x
Drongo	1	3	14	10	16	26	16	10	13
Black-headed Oriole	-	x	x	-	1	5	9	x	2
Golden Oriole	-	x	1	-	1	3	7	x	1
Grey Tit	-	-	x	-	x	1	-	x	x
Scaly Chatterer	-	-	-	1	1	5	-	x	1
Rufous Chatterer	-	-	-	-	-	1	-	-	x
Black Cuckoo Shrike	-	-	x	-	x	1	2	x	x
Zanzibar Sombre Greenbul	-	-	-	-	-	3	2	-	1
Northern Brownbul	-	-	-	-	-	4	3	-	1
Common Bulbul	-	x	1	1	1	15	5	1	4
Rufous Bush Chat	x	6	5	6	8	6	4	6	5
White-browed Scrub Robin	-	x	x	5	6	4	-	2	2
Irania	-	-	x	-	x	2	x	x	1
Sprosser	-	-	-	x	-	1	1	x	x
Rock Thrush	2	3	5	4	2	2	-	4	3
Isabelline Wheatear*	{ 6	8	3	4	1	-	-	4	3
	{ 16	12	3	1	1	-	-	6	4
Northern Wheatear*	x	2	2	1	1	-	-	2	1
Pied Wheatear	1	1	2	1	2	x	-	1	1
Capped Wheatear	x	1	x	-	-	-	-	x	x
Bare-eyed Thrush	-	-	-	-	x	3	-	x	1
Marsh Warbler	-	x	2	1	1	3	5	1	2
Upcher's Warbler*	{ -	x	1	1	x	1	-	x	1
	{ 1	1	2	2	2	7	10	1	3
Olivaceous Warbler*	-	x	x	-	x	6	10	x	2

Continued overleaf

Table 2, continued

	G	BG	WBG	B	WB	W	R	PSH	Total
Willow Warbler	-	1	2	1	3	4	1	2	2
Garden Warbler	-	-	x	-	x	1	-	x	x
Whitethroat	1	2	5	4	8	7	1	4	4
Barred Warbler	-	1	2	1	2	2	2	1	1
Yellow-breasted Apalis	-	-	-	x	x	x	-	x	x
Grey Wren Warbler	-	x	x	3	3	3	1	1	2
Desert Cisticola	5	x	-	-	-	-	-	x	x
Ashy Cisticola	10	3	1	1	x	-	-	2	2
Tiny Cisticola	-	x	1	-	1	5	-	x	1
Yellow-vented Eremomela	-	-	x	-	-	1	-	x	x
Red-fronted Warbler	-	-	-	1	x	-	x	x	x
Northern Crombec	-	1	1	1	3	5	-	1	2
Grey Flycatcher	-	x	2	1	1	4	-	1	1
Spotted Flycatcher	-	x	5	1	3	14	38	2	7
Black-headed Batis	-	-	x	-	-	-	7	x	1
Chin-spot Batis	-	-	-	-	x	2	-	x	x
Pygmy Batis	-	-	1	x	1	1	-	x	x
Paradise Flycatcher	-	-	x	-	-	1	1	x	x
Pangani Longclaw	11	4	2	2	x	-	2	3	2
Golden Pipit	4	20	22	16	10	2	x	17	13
Black-backed Puffback	-	-	-	-	-	-	8	-	1
Slate-coloured Boubou	-	-	x	x	2	6	-	x	1
Grey-headed Bush Shrike	-	-	-	-	-	1	1	-	x
Brubru	-	x	2	x	2	1	-	1	1
Rosy-patched Shrike	x	4	3	4	2	1	-	3	2
Three-streaked Tchagra	x	1	1	3	3	3	x	1	2
Black-headed Tchagra	-	-	-	-	-	1	x	-	x
Long-tailed Fiscal	-	x	x	1	1	-	x	x	x
Taita Fiscal	18	24	11	10	3	-	-	14	10
Red-backed Shrike	x	2	2	4	5	2	4	3	3
Red-tailed Shrike	9	17	12	12	10	9	5	13	11
Lesser Grey Shrike	1	1	x	1	1	x	-	1	1
White-crowned Shrike	x	7	11	10	19	18	9	10	12
Helmet Shrike	-	x	1	1	8	22	1	2	5
Retz's Helmet Shrike	-	-	-	-	-	-	17	-	1
Violet-backed Starling	-	-	-	-	-	2	-	-	x
Wattled Starling	6	10	11	3	17	2	19	11	10
Blue-eared Glossy Starling	-	-	-	-	x	-	8	x	1
Rüppell's Long-tailed Glossy Starling	-	-	-	1	1	-	-	x	x
Red-winged Starling	-	-	-	-	-	2	-	-	x
Magpie Starling	-	-	3	-	-	-	1	1	1
Golden-breasted Starling	1	7	20	20	22	25	14	15	17
Fischer's Starling	x	5	22	3	16	7	3	12	10
Hildebrandt's Starling	-	2	x	-	-	x	-	1	1

Continued opposite

Table 2, continued

	G	BG	WBG	B	WB	W	R	PSH	Total
Shelley's Starling	-	x	1	x	2	x	-	1	1
Superb Starling	x	16	24	13	42	2	8	21	17
Red-billed Oxpecker	1	4	3	2	5	1	6	3	3
Collared Sunbird	-	-	-	-	-	-	3	-	x
Eastern Violet-backed Sun'b	-	-	x	1	x	2	-	x	1
Amethyst Sunbird	-	-	-	-	-	x	4	-	x
Little Purple-banded Sun'b	-	x	-	-	1	10	1	x	1
Hunter's Sunbird	-	2	3	5	11	13	8	4	6
Abyssinian White-eye	-	-	1	x	x	x	1	x	x
Red-billed Buffalo Weaver	-	14	40	19	26	15	18	24	22
White-headed Buffalo Weaver	1	11	14	15	19	9	2	13	11
Parrot-billed Sparrow	1	9	17	8	20	1	33	13	12
Yellow-spotted Petronia	4	10	18	14	21	10	11	14	13
White-browed Sparrow Weaver	-	1	1	x	1	-	2	1	1
Black-capped Social Weaver	-	-	-	9	-	-	-	1	1
Red-headed Weaver	-	-	x	-	x	1	2	x	x
Black-necked Weaver	-	-	-	-	x	3	-	x	1
Masked Weaver	-	x	x	2	x	2	x	x	1
Black-headed Weaver	-	x	x	-	2	-	1	1	x
Chestnut Weaver	-	4	x	x	x	9	-	1	3
Red-billed Quelea	46	80	144	11	88	19	594	90	115
White-winged Widowbird	-	-	1	-	-	-	6	x	1
Fire-fronted Bishop	-	4	4	12	6	4	8	5	5
Pin-tailed Whydah	-	-	-	-	-	-	2	-	x
Paradise Whydah	-	-	13	-	1	1	13	5	4
Green-winged Pytilia	-	1	1	2	3	1	1	1	1
Red-cheeked Cordon-bleu	-	-	x	-	x	x	10	x	1
Purple Grenadier	-	-	-	-	1	1	-	x	x
Crimson-rumped Waxbill	-	-	1	-	-	-	2	x	x
Grey-headed Silverbill	-	-	1	-	1	2	-	1	1
Cut-throat	8	8	27	2	8	-	1	14	10
Somali Golden-breasted Bunting	-	2	5	15	12	3	-	6	5
Yellow-rumped Seed-eater	-	-	-	-	-	1	x	-	x

Notes: Habitat abbreviations as in Table 1

x = less than 0.5 seen per 10 h

* = not identified positively in the 1974/75 winter, and some individuals not identified positively in the 1975/76 winter but the figures are given to facilitate comparisons

Total = average of the figures for the eight different habitats.

tober (7 of 10 seen in censuses) than between November and April.

There are two large resident plovers, the Black-headed *Vanellus tectus* and the Crowned *V. coronatus*. As can be seen from the figures,

Continued on page 19

TABLE 3

The number of each species/10 h in each month

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Yellow-necked Spurfowl (56)	1	2	x	-	x	1	2	x	1	1	1	1
Crested Francolin (97)	2	x	2	x	1	2	1	4	1	1	2	-
Harlequin Quail (459)	-	-	-	1	2	41	31	x	x	x	x	-
Helmeted Guineafowl (19)	-	-	-	-	-	x	x	-	x	-	x	x
Quail Plover (24)	x	x	1	x	x	-	x	x	x	1	x	x
Buff-crested Bustard (136)	2	1	3	1	2	1	1	3	1	5	1	2
White-bellied Bustard (14)	x	x	1	-	x	-	-	-	-	x	x	x
Black-headed Plover (232)	2	2	2	5	2	6	1	2	4	4	7	3
Crowned Plover (112)	1	2	2	1	2	-	2	4	1	2	2	1
Caspian Plover (27)	-	-	x	1	1	-	1	2	x	-	-	-
Spotted Thicknee (16)	-	1	-	x	x	-	-	-	x	x	-	x
Heuglin's Courser (44)	2	3	1	-	1	x	-	-	x	x	-	1
Chestnut-bellied Sandgrouse (27)	-	1	4	-	-	-	-	-	-	-	x	-
Black-faced Sandgrouse (859)	15	8	12	16	14	8	6	7	14	18	13	17
Red-eyed Dove (122)	x	1	2	1	1	4	2	1	1	3	2	2
Ring-necked Dove (955)	9	8	9	13	15	13	23	15	12	19	12	15
Laughing Dove (1318)	2	4	2	7	7	53	102	14	5	4	9	6
Namaqua Dove (177)	-	-	-	2	1	3	7	5	3	2	6	1
Emerald-spotted Wood Dove (117)	x	2	1	1	1	4	2	2	2	2	2	1
Orange-bellied Parrot (245)	5	2	2	3	3	4	2	3	5	5	4	5
White-bellied Go-away Bird (206)	3	2	3	4	2	1	3	3	4	3	5	4
Great Spotted Cuckoo (14)	-	-	-	-	x	2	1	-	-	-	-	-
Black and White Cuckoo (51)	-	-	-	-	x	6	1	-	1	-	-	-
Eurasian/African Cuckoo (64)	-	-	-	1	3	2	x	-	-	4	-	-
Didric Cuckoo (54)	-	-	-	-	1	x	3	x	x	1	x	-
White-browed Coucal (55)	-	-	-	-	x	x	3	1	x	1	1	-
Speckled Mousebird (63)	1	2	-	x	x	2	2	1	1	x	2	-
Blue-naped Mousebird (452)	6	11	3	8	8	10	3	2	7	5	6	11
Striped Kingfisher (128)	1	2	1	1	1	3	3	2	1	2	2	2
Chestnut-bellied Kingfisher (160)	x	x	x	-	1	8	5	4	2	3	1	x

Table 3, continued

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Eurasian Bee-eater (14)	-	-	-	-	x	x	2	-	-	-	-	-
Madagascar Bee-eater (65)	-	-	-	x	-	x	1	5	1	3	-	-
White-throated Bee-eater (91)	-	-	-	-	-	4	1	6	x	2	1	-
Little Bee-eater (96)	2	1	1	1	x	1	2	3	x	1	3	1
Somali Bee-eater (74)	1	1	1	1	1	1	1	1	1	2	1	2
Eurasian Roller (385)	-	-	-	-	1	7	18	17	9	8	2	-
Lilac-breasted Roller (147)	2	1	2	2	1	3	3	2	2	2	3	2
Rufous-crowned Roller (23)	x	-	-	-	x	x	-	-	x	x	2	1
Broad-billed Roller (19)	-	-	-	-	x	x	2	-	1	x	-	-
Hoopoe (108)	1	x	x	-	1	x	3	1	1	1	3	4
Green Wood Hoopoe (87)	2	3	2	1	x	2	2	1	1	x	2	1
Abyssinian Scimitar-bill (169)	3	2	2	2	3	1	2	3	2	4	2	2
Grey Hornbill (120)	2	1	x	2	2	2	2	2	1	2	2	1
Red-billed Hornbill (548)	6	5	6	6	9	8	12	7	10	10	9	5
Von der Decken's Hornbill (580)	13	8	14	7	4	7	8	5	9	8	10	9
Yellow-billed Hornbill (188)	5	3	1	2	1	2	3	2	6	3	2	2
Brown-breasted Barbet (42)	2	1	1	x	x	x	x	x	1	1	1	-
Black-throated Barbet (163)	2	4	3	1	1	3	3	3	2	2	1	3
Spotted-flanked Barbet (52)	2	-	x	1	1	2	1	1	1	x	-	2
Red-fronted Tinkerbird (35)	1	x	x	x	x	-	1	1	1	1	1	1
d'Arnaud's Barbet (288)	5	3	3	5	4	4	4	5	4	6	4	3
Red and Yellow Barbet (137)	3	3	2	2	x	1	1	5	2	2	2	1
Greater Honeyguide (13)	x	x	-	-	-	-	-	-	1	x	x	-
Lesser Honeyguide (18)	-	-	-	-	-	x	1	x	x	-	1	x
Nubian Woodpecker (133)	2	2	3	2	2	2	2	2	1	3	1	2
Cardinal Woodpecker (114)	2	2	1	1	2	2	2	2	1	2	2	1
Bearded Woodpecker (18)	x	1	1	1	x	x	x	x	x	x	x	-
Chestnut-backed Sparrow Lark (756)	-	-	-	-	-	-	1	5	75	-	26	21
Chestnut-headed Sparrow Lark (1903)	79	18	40	9	12	7	1	24	11	67	77	7
Singing Bush Lark (74)	x	-	x	1	x	2	4	2	1	1	1	-
Red-winged Bush Lark (512)	6	6	7	7	6	8	9	12	8	10	7	3

Table 3, continued

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Pink-breasted Lark (2527)	32	34	49	51	47	23	23	38	37	52	29	30
Friedmann's Bush Lark (10)	-	-	-	-	-	1	-	1	-	-	-	-
Drongo (919)	13	13	16	14	14	12	13	11	10	15	14	16
Black-headed Oriole (129)	2	3	2	2	1	2	2	1	2	3	2	1
Golden Oriole (91)	-	-	-	2	1	4	1	3	3	2	-	-
Grey Tit (12)	1	-	-	-	-	-	x	x	1	-	-	-
Scaly Chatterer (74)	1	3	-	1	1	x	2	2	x	1	2	x
Rufous Chatterer (18)	-	-	-	1	1	-	1	-	-	x	-	-
Black Cuckoo Shrike (30)	x	-	-	x	-	1	x	2	x	1	1	-
Zanzibar Sombre Greenbul (49)	x	x	1	1	1	1	2	1	x	-	1	x
Northern Brownbul (65)	-	x	2	1	3	1	1	-	1	1	2	1
Common Bulbul (275)	3	4	5	5	4	5	3	2	3	4	5	5
Rufous Bush Chat (381)	-	-	-	-	11	17	11	11	9	3	-	-
White-browed Scrub Robin (146)	2	4	3	1	2	1	2	2	2	3	2	1
Irania (39)	-	-	-	-	x	2	x	x	2	1	-	-
Sprosser (22)	-	-	-	-	1	2	x	-	-	1	-	-
Rock Thrush (218)	-	-	-	1	7	7	9	5	5	1	-	-
Isabelline Wheatear (226)	-	-	-	1	12	13	14	17	13	1	-	-
Northern Wheatear (85)	x	-	1	5	4	5	4	1	-	1	x	-
Pied Wheatear (75)	-	-	-	1	3	2	2	2	1	x	-	-
Capped Wheatear (15)	x	-	-	-	-	-	-	x	-	x	2	x
Bare-eyed Thrush (48)	1	x	1	1	1	1	1	-	1	1	1	x
Marsh Warbler (109)	-	-	-	-	3	11	2	1	x	1	-	-
Upcher's Warbler (36)	-	-	-	-	-	x	2	4	5	3	-	-
Olivaceous Warbler (141)	-	-	-	x	2	13	11	14	7	5	-	-
Willow Warbler (134)	-	-	-	2	x	4	1	x	6	9	-	-
Garden Warbler (16)	-	-	-	-	x	1	x	x	1	1	-	-
Whitethroat (309)	-	-	-	-	5	28	8	2	1	7	-	-
Barred Warbler (96)	-	-	-	-	1	5	6	2	1	x	-	-
Yellow-breasted Apalis (9)	x	x	x	x	-	-	-	-	-	-	x	x
Grey Wren Warbler (106)	3	2	x	1	1	4	2	1	2	1	1	1

Table 3, continued

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Desert Cisticola (24)	x	-	-	-	-	x	1	1	x	x	x	-
Ashy Cisticola (105)	1	1	1	1	x	2	2	2	2	3	2	1
Tiny Cisticola (83)	1	x	x	x	1	1	2	2	1	2	1	2
Yellow-vented Eremomela (13)	x	x	1	-	x	-	-	x	x	x	-	x
Red-fronted Warbler (10)	x	x	x	-	x	-	-	-	-	-	-	1
Northern Crombec (122)	1	2	3	3	2	1	x	3	3	1	1	2
Grey Flycatcher (95)	2	3	1	2	1	x	1	2	1	1	1	2
Spotted Flycatcher (500)	-	-	-	2	17	18	12	13	14	6	-	-
Black-headed Batis (39)	x	1	-	-	x	2	1	1	x	x	1	x
Chin-spot Batis (32)	x	x	1	x	1	x	1	-	x	x	x	1
Pygmy Batis (30)	1	1	1	1	-	-	-	x	1	-	-	1
Paradise Flycatcher (20)	-	-	-	-	-	1	1	1	1	x	x	-
Pangani Longclaw (165)	2	x	1	2	1	3	5	2	3	3	4	2
Golden Pipit (895)	x	1	1	3	20	39	22	26	22	13	x	1
Black-backed Puffback (45)	-	x	x	x	x	2	1	2	x	1	1	1
Slate-coloured Boubou (95)	2	2	1	1	1	2	1	1	3	x	2	1
Grey-headed Bush Shrike (18)	x	x	1	x	x	x	x	-	x	x	-	-
Brubru (67)	1	1	1	1	1	1	1	1	1	1	1	1
Rosy-patched Shrike (160)	1	1	1	5	2	2	2	4	2	3	2	3
Three-streaked Tchagra (111)	2	1	1	1	2	2	2	3	1	2	1	1
Long-tailed Fiscal (21)	-	1	-	x	-	x	x	-	-	1	1	-
Taita Fiscal (708)	8	8	15	11	11	6	8	14	12	11	11	10
Red-backed Shrike (184)	-	-	-	-	1	1	1	1	1	25	-	-
Red-tailed Shrike (802)	-	-	-	-	x	16	33	28	23	3	-	-
Lesser Grey Shrike (38)	-	-	-	-	-	-	-	-	-	6	-	-
White-crowned Shrike (819)	11	18	9	9	9	10	10	11	12	16	14	16
Helmet Shrike (382)	7	8	5	7	7	7	2	5	7	5	2	5
Retz's Helmet Shrike (89)	1	3	1	1	1	3	2	2	-	-	1	1
Violet-backed Starling (26)	-	-	-	-	-	-	-	-	1	-	2	1
Wattled Starling (667)	-	-	-	4	9	8	29	11	2	27	17	2
Blue-eared Glossy Starling (46)	-	2	1	1	1	2	1	-	-	1	-	x

Table 3, continued

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Rüppell's Long-tailed Glossy Starling (15)	1	x	-	-	-	-	-	-	-	x	1	-
Red-winged Starling (31)	-	4	2	-	-	-	-	-	-	-	-	-
Magpie Starling (61)	-	-	-	1	8	1	-	-	-	-	-	-
Golden-breasted Starling (1177)	20	29	25	15	15	12	15	17	16	15	15	16
Fischer's Starling (713)	8	20	6	14	5	9	7	5	22	6	7	19
Hildebrandt's Starling (35)	-	-	1	-	x	1	-	-	4	-	-	x
Shelley's Starling (44)	-	-	-	-	-	5	-	3	x	-	-	-
Superb Starling (1163)	20	21	15	15	10	10	14	11	22	24	26	15
Red-billed Oxpecker (228)	3	4	2	6	2	4	3	3	x	6	6	2
Collared Sunbird (17)	x	1	x	-	x	x	-	x	-	x	1	x
Eastern Violet-backed Sunbird (40)	2	x	2	1	x	1	-	x	x	1	x	x
Amethyst Sunbird (25)	1	2	x	x	-	x	x	-	x	x	x	x
Little Purple-banded Sunbird (148)	2	3	2	1	1	4	2	1	2	2	3	1
Hunter's Sunbird (421)	8	13	6	5	5	5	2	3	7	9	6	6
Abyssinian White-eye (24)	x	-	-	x	-	2	-	-	x	x	2	-
Red-billed Buffalo Weaver (1530)	12	10	5	12	33	22	30	15	43	22	46	11
White-headed Buffalo Weaver (799)	16	15	11	9	14	6	9	6	14	13	13	15
Parrot-billed Sparrow (836)	20	13	11	13	12	10	11	8	12	12	11	12
Yellow-spotted Petronia (937)	15	17	17	17	14	12	11	11	12	14	13	21
White-browed Sparrow Weaver (63)	4	-	x	x	x	x	-	1	1	1	x	x
Black-capped Social Weaver (63)	8	-	-	1	-	-	2	-	-	-	-	-
Red-headed Weaver (19)	x	-	-	-	1	-	1	x	x	-	x	-
Black-necked Weaver (39)	1	1	1	1	x	1	x	x	1	1	1	x
Masked Weaver (47)	2	-	x	-	1	2	x	1	x	1	-	-
Black-headed Weaver (32)	-	-	-	-	-	1	1	1	-	-	3	-
Chestnut Weaver (183)	-	-	-	3	x	18	2	-	6	2	-	-
Red-billed Quelea (8053)	x	5	x	9	41	73	800	134	98	98	32	-
White-winged Widowbird (39)	-	-	-	-	-	2	5	-	-	-	-	-
Fire-fronted Bishop (353)	-	-	-	x	6	13	15	4	x	6	15	-
Pin-tailed Whydah (11)	-	-	-	-	-	x	x	x	x	x	-	-
Paradise Whydah (312)	-	-	-	-	-	1	35	12	-	2	1	-

Table 3, continued

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Green-winged Pytilia (85)	3	3	1	1	1	1	1	1	1	1	2	1
Red-cheeked Cordon-bleu (59)	-	-	2	1	1	2	1	1	x	1	2	1
Purple Grenadier (21)	x	1	-	x	x	-	x	x	-	-	x	x
Crimson-rumped Waxbill (25)	-	-	-	-	-	3	1	-	x	-	-	-
Grey-headed Silverbill (56)	-	-	-	-	-	-	3	-	-	3	-	-
Cut-throat (702)	-	1	-	-	x	2	33	22	41	12	1	1
Somali Golden-breasted Bunting (353)	7	4	5	7	5	3	4	6	4	4	5	7
Yellow-rumped Seed-eater (17)	x	2	-	-	1	-	-	-	-	-	-	-

Note: conventions as in Table 2 (where applicable); the figure after each bird's name is the total number recorded on censuses

Continued from page 13

there was a clear habitat difference between the two, with the Black-headed commonest in the thicker Park savanna habitats and the Crowned in the more open. There was some overlap, and in the overlap the Crowned, subjectively, seemed to prefer areas with more grass. The final common species, the Palaearctic Caspian Plover *Charadrius asiaticus*, only half the size of the two resident plovers, was virtually confined to very open areas, especially those almost devoid of grass to the south and east of Aruba. It was seen between early September and early April, usually in small flocks. Most appeared to be on passage. That only few were seen in censuses is mainly a reflection of its restricted habitat preferences.

All these species were only seen feeding from the ground taking insects, and all seemed to favour bare ground.

Other species recorded: Senegal Plover *Vanellus lugubris*, Cream-coloured Courser *Cursorius cursor*, Two-banded Courser *Rhinoptilus africanus*, Violet-tipped Courser *R. chalcopertus*, and ten plover species, one thick-knee and one pratincole, all of which are mainly waterside birds.

Sandgrouse Pteroclididae, Pigeons Columbidae

There is some argument about the taxonomic relationships of these two families but as their ecological requirements are similar, they are considered together.

The six common species fall into three pairs based on body size. Of the large pair the Black-faced Sandgrouse *Pterocles decoratus* was very common throughout the year in all Park savanna habitats where there was

woody vegetation. It was very rare in Woodland and Riverine. Despite its need to drink every day its distribution in the southern part of Tsavo East did not seem to be restricted in the dry season. Sandgrouse are known to move quite long distances daily for water, e.g. *P. namaqua* goes up to 80 km each way in the Kalahari (McLean 1968). As far as is known, in common with other sandgrouse, the Black-faced is entirely granivorous throughout its life, taking small seeds from the ground.

The other large species, the Red-eyed Dove *Streptopelia semitorquata* was also a resident but had totally contrasting habitat preferences. It was common in Woodland and Riverine but was nearly absent from all Park savanna habitats. It seemed to be much more arboreal than any others in these families and, although there was only one record of it eating fruit in the present study - on the bush *Salvadora persica* - it is suspected that it was rather more of a frugivore than a granivore. All the handbooks say it is entirely granivorous although Goodwin (1967) adds "it does also eat berries in trees". It was, however, entirely a frugivore at Lamto, Ivory Coast (Thiollay 1971).

The pair of small doves, the Namaqua *Oena capensis* and Emerald-spotted Wood Dove *Turtur chalcospilos*, had similar habitat preferences to the Black-faced Sandgrouse and Red-eyed Dove respectively, and hence were very different from each other. The wood dove was more widespread in the Park savanna habitats than the Red-eyed Dove, perhaps because it feeds entirely on seeds on the ground, particularly among the litter. It was a resident. The Namaqua Dove is, as far as is known, entirely granivorous but was seasonal in its occurrence in the Park. It was absent in the long dry season, increased sharply in the 'short' rains, and then remained in steadily reducing numbers until about mid June. Where it goes between June and November is unknown. Britton (1980) and Curry-Lindahl (1981) say that only local movements occur but, in common with many other species, the movements appear to be much more regular and substantial.

The middle-sized pair, the Ring-necked Dove *Streptopelia capicola* and the Laughing Dove *S. senegalensis*, were both fairly common in all habitats although statistically their preferences were different ($\chi^2 = 63$, with df 6, $P < 0.001$). However, their patterns of seasonal occurrence were different. The Ring-necked Dove was common in all habitats throughout the year (Fig. 1) although there was a slight increase in numbers in the wet seasons, especially in January. The Laughing Dove, by contrast, was only present in small numbers for most of the year and these were almost all in Woodland or near water. In December and January very large numbers came in to all habitats (Fig. 1). These birds were coming into Tsavo to breed. Both species seemed to be entirely granivorous, taking seeds from the ground. In Botswana, Irving & Beesley (1976) found that, in grain crops, the Ring-necked fed mainly from the heads of the standing corn and the Laughing Dove fed mainly from the ground. This difference did not appear to hold in Tsavo.

The Laughing Dove is regarded as migratory in several other parts of

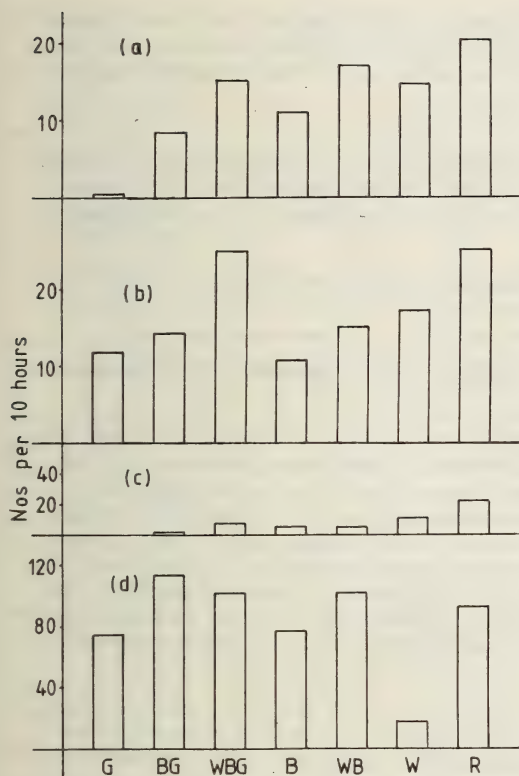


Fig. 1. The habitat preferences of two *Streptopelia* doves: a) Ring-necked *S. capicola* February to November, b) Ring-necked December and January, c) Laughing Dove *S. senegalensis* February to November, d) Laughing Dove December and January.

Habitat abbreviations as in Table 1.

Africa although it is often, as in Tsavo, partially resident. It occurs only after good rains in the Kalahari (McLean 1970). In Zambia largest numbers occur between April and November which is the dry season there, and there are evidently more birds after poor rains (Benson et al. 1973). This is, of course, the period they are absent from Tsavo, and although Benson et al. think that the influx to Zambia is from the south, they give little evidence to support this suggestion. The Tsavo birds might go to Zambia, but there is really too little documentation of the movements in other areas to be sure.

Other species recorded: Chestnut-bellied Sandgrouse *Pterocles exustus*, Speckled Pigeon *Columba guinea*, Mourning Dove *Streptopelia de-cipiens*, Tambourine Dove *Turtur tympanistria* and Green Pigeon *Treron australis*.

Parrots Psittacidae

The Orange-bellied Parrot *Poicephalus rufiventris* was the only parrot species recorded in Tsavo East. It was fairly common, and resident, in Woodland and Riverine and a few were recorded in Wooded Bushland.

All parrots seen feeding (43 birds) were eating fruit except for one

eating leaves and one probably flowers. The species took fruit from both bushes (10 birds) and trees (33 birds) and took some of the large fruit, e.g. *Commiphora boiviniana* in addition to the commoner small *C. africana*, and others.

Turacos Musophagidae

The White-bellied Go-away Bird *Corythaixoides leucogaster* was a common resident in Woodland with a very few in Wooded Bushland and in trees along riverine fringes. It was, however, not seen in the Voi River forest.

As it is a shy bird very few feeding data were obtained, but it seemed to be largely a fruit eater (8 of 12 birds seen feeding, and 3 of the other 4 were eating *Acacia mellifera* flowers on one day).

Other species recorded: Violet-crested Turaco *Tauraco porphyreolophus*.

Cuckoos Cuculidae

None of the eleven species recorded was common, although only two can be considered rare, the Emerald Cuckoo *Chrysococcyx cupreus* and the Yellowbill *Ceuthmochares aereus*. Three others were seen only very rarely but were heard regularly in the wet seasons: the Black Cuckoo *Cuculus clamosus*, Red-chested Cuckoo *C. solitarius* and Klaas' Cuckoo *Chrysococcyx klaas*. All three were almost restricted to Woodland. The first two are probably migratory, being present from November to January and April. Only three Klaas' Cuckoos were seen in censuses, and one was in each of June and July, suggesting that it may be partially resident.

The only other species which can be seen all the year (despite the data in Table 3) is the White-browed Coucal *Centropus superciliosus*. It was, however, much commoner in the wet seasons. It occurred fairly commonly in thick bushes, especially along rivers and small water-courses, although it retreated to the main rivers in the dry season. All four food items seen taken were large insects from the ground.

The other species were all wet season visitors only. All occurred in both wet seasons although all were commoner in December and January than in April. The Great Spotted Cuckoo *Clamator glandarius* occurred wherever there were trees, especially in Wooded and Bushed Grassland. It has bred in Tsavo East (Trevor & Lack 1976) but whether the birds involved are all of Afrotropical provenance or include some which have bred in the Palaearctic is unknown. The Black and White Cuckoo *Clamator jacobinus* is a little smaller than the Great Spotted but was more common. It was usually seen low down in bushes (none of the 13 food items taken was higher than 1 m up in the vegetation) but it was nevertheless commoner in habitats with trees (WBG, WB, W and R) ($\chi^2=14$, with df 1, $P<0.01$). There is a breeding record of this species too (Turner 1977), which suggests that some at least are of African origin. However, East African birds are thought to be largely migrants from the Indian subcontinent (Friedmann 1964).

The one common small species, the Didric Cuckoo *Chrysococcyx caprius* was the commonest cuckoo of all. It occurred in all habitats

except Grassland but was commoner in those with trees ($\chi^2=18$, with df 1, $P<0.01$). Like the Black and White Cuckoo the Didric also apparently fed mainly in the bushes (6 of 7 birds seen feeding).

The final two species are often considered to be races of one and often they were not distinguished in this study: the African Cuckoo *Cuculus gularis* and the Eurasian Cuckoo *C. canorus*. Both occurred and the latter was probably the commoner. The two species combined were also commonest in habitats with trees, though both differ from other cuckoos in being seen in trees rather than bushes.

All sightings of food taken were of insects, mostly quite large ones.

Mousebirds Coliidae

The Blue-naped Mousebird *Urocolius macrourus* was a resident, although it was seen more often at times when *Commiphora africana* and *Salvadora persica* were fruiting (July to September and not the whole dry season). It was seen to eat fruits of both species extensively. It was commonest in Riverine but was more widespread than the Speckled Mousebird *Colius striatus* and occurred fairly commonly wherever there was woody vegetation. The Speckled Mousebird, also a resident, was almost confined to Riverine.

Both species were recorded only eating fruit, and both appeared to eat whichever was available at the time. The majority of sightings of both species were of birds in bushes, not trees (Blue-naped 67 of 78 birds and Speckled 11 of 15 birds). Despite the dominance of Riverine in their habitat preferences, neither was recorded eating *Ficus* spp. fruits.

Other species recorded: White-headed Mousebird *Colius leucocephalus*.

[to be continued]

BIRD OBSERVATIONS FROM NORTHWEST SOMALIA

G. Clarke

Following the publication of the *Birds of Somalia* by J.S. Ash and J.E. Miskell (1983) - hereafter referred to as A&M - and subsequent correspondence with Dr Ash, it seems desirable to publish some notes based on my stay in northwest Somalia (ex-British Somaliland Protectorate) during the periods October 1955 to 26 January 1957, and from 1 December 1957 to 3 January 1959. The actual date of arrival in Somaliland was in late August 1953 but little ornithological work was done until October 1955 when both volumes of Mackworth-Praed & Grant (1952, 1955) became available. Only data which supplement the information in A&M are given here.

I was based at Hargeisa¹ for the majority of the time, so that this district received the most attention, with only considerably shorter periods elsewhere. October 1955 was spent at Adadleh; the last fortnight of May 1956 at Erigavo; October 1956 at Dubur, Sheikh; and some time was also spent at Burao. Many trips, both on duty and for pleasure, were made into the surrounding bush, mostly within 80 km. At weekends and on holidays longer runs were made, allowing places further afield to be visited. Berbera was visited annually during the winter, and an opportunity was twice taken to visit Sebanak, in March and December 1958. The last week of May 1958 was spent at Zeila, when the island of Saad Din was visited.

The results of this study were originally written up in 1968, but remained unpublished except for the abstraction of notes on 19 species in Baird (1979). For the present paper they have been completely reworked into atlas form to follow that of A&M, which is based upon the $\frac{1}{2} \times \frac{1}{2}$ degree square. This treatment has provided data from 22 such squares (Table 2).

During the study 311 species were identified; of which 65 were found to be in some stage of the breeding cycle. Altogether 298 squares for 173 species are additional to those given by A&M, and a further 17 squares for 13 species are available from other sources (Table 1). In addition to the new square data, some species are also commented upon, providing breeding, migrational and/or distributional information.

Table 1
Summary of species/squares

Species	Squares	Breeding species	squares	
311	1165	65	80	Total recorded in study
173	298	53	63	Additional records
13	17	2	2	Additions (other sources)
186	315	55	65	Total additional records

¹Co-ordinates for all localities are listed in Appendix A

For accounts of the topography, climate, habitat and status, see A&M.

ORDER AND NOMENCLATURE

The order and nomenclature followed is that used by A&M, as is the method of presenting the data, and their sequential species number is followed by the scientific and English names. Those species for which there are ten or less records are suffixed by an asterisk. The Mackworth-Praed & Grant numbers are given after the English names. The additional square information follows at the end of the note, except for those species for which additional comments only are made.

SOURCE OF DATA

The material of this study is taken from approximately 4000 separately recorded observations, mostly on those species seen infrequently such as migrants, raptors (except the common Tawny Eagle *Aquila rapax*) and breeding species. Few definite searches were made for nests as it was found that disturbance, especially of small species, usually ended with predation.

A number of birds were collected, especially in 1958, taking those which appeared to be new to the country; and most of them were sent to Mr J.G. Williams at the (now) National Museum, Nairobi. A few were also sent to the British Museum (Nat. Hist.), London. Mr A.R. Tribe of the Government Forestry Department kindly allowed me access to part of his collection, and some of his specimens are included below.

DISTRIBUTION

The $22 \frac{1}{2} \times \frac{1}{2}$ degree squares visited in the course of the study are listed below, together with the number of species recorded in each (Table 2). This reflects the amount of effort which was given to each square, but no conscious effort was made to collect atlas data on bird distribution. Rather, the object was to visit those places known to produce interesting and different birds; for example the coast, mountains, the great open plains, and by no means least, the riverine woodland systems.

Table 2

Species/square distribution

<input type="checkbox"/> No.	2c	9a	10a	10c	10d	11c	13a	13b	18a	18b	18d	19a	19b	19c	19d
No. of spp.	38	1	49	9	14	136	70	20	90	110	51	196	105	35	8

<input type="checkbox"/> No.	20a	20b	20c	20d	26a	27b	28b
No. of spp.	101	94	20	14	2	1	1

Total species/squares = 1165

As can be seen from these erratic results, much remained to be done.

SPECIES ACCOUNTS

1. *Struthio camelus molybdophanes* Ostrich 1. Frequently seen with some usually solitary males penetrating thicker bushland. 18ab, 19a, 20ac. Breeding: nests were not found, but larger flocks were usually comprised of young birds with a few adults in attendance. Eggs were brought into Hargeisa and Burao for sale.
2. *Tachybaptus ruficollis* Little Grebe 4. Opportunistic, colonizing quite small freshwater pools. 11c. Breeding: 11c, at Bihendula on 28 Dec 1958, when a pair with two chicks was seen.
10. *Pelecanus onocrotalus* White Pelican 31. Two records only: 20 at Zeila on 28/29 May 1958 and 2 at Sebawanak on 14 Dec 1958 (previously reported in Baird (1979)). 2c.
20. *Ixobrychus minutus* Little Bittern 50. A female, presumably of the nominate race, was found alive at Burao on 14 Sep 1956 in a damaged and partly opened box of stores which had been received the previous day from Berbera. The bird was released at Bihendula three days later. 20b.
22. *Ardea cinerea* Grey Heron 33. 2c.
28. *Bubulcus ibis* Cattle Egret 42. One at Berbera on 12 Jan 1957 and 4 at Sebawanak on 14 Dec 1958. Also 2 at Borama on 5 Oct 1958, reported by Mrs M. Gregor (pers. comm.). 10a, 18a.
29. *Butorides striatus* Green-backed Heron 45. One, probably of the race *atricapillus* on 24 Aug 1958 at Biyo Dai. 19a.
30. *Egretta alba* Great White Egret 37. One 23 - 26 Dec 1956 at Berbera. 11c. The first record north of 4°N.
32. *Egretta garzetta* Little Egret 40. 11c.
33. *Egretta gularis* African Reef Heron 41. 10a.
38. *Ciconia abdimii* Abdim's Stork 58. Irregular passage migrant through squares 18abd, 19abcd and 20abcd. One at Eik in late Jun 1958 (H. Playfair pers. comm.) and 200+ at Borama on 29 Jun 1958 (A.R. Tribe pers. comm.). 18a, 19a, 27a.
42. *Leptoptilos crumeniferus* Marabou 61. Rarely recorded by Archer & Godman (1937) except in squares 2 and 9. Present from Jun to Sep with 210 at Hargeisa in Aug. One Dec record of a possibly sick bird. 18b, 19b, 20a.
43. *Mycteria ibis* Yellow-billed Stork 62. Maximum 4. 10a.
47. *Threskiornis aethiopica* Sacred Ibis 63. 2c, 11c, 20b.
49. *Platalea leucorodia* Eurasian Spoonbill 69. 10a.
50. *Phoeniconaias minor* Lesser Flamingo* 72. One at Sebawanak on 10 Mar 1958, feeding apart from 25 Greater Flamingos *Phoenicopterus ruber* of which it was about half the size, with the general colour a much deeper pink, and the deep red bill having a black tip. This species

was subsequently recorded in some numbers on the north side of the Gulf at Aden by Ennion (1962) and Clarke (1967). This is the first published record for Somalia, referred to without detail by A&M.

56. *Anas clypeata* Shoveler* 80. One and 5 birds at Sebawanak on 10 Mar and 13 Dec 1958, respectively. Wings were obtained on 27 Dec 1958 from 2 birds newly shot at Sebawanak. There are 6 previous records from Somalia (vide A&M).

57. *Anas crecca* Teal* 87. One at Sebawanak on 13 Dec 1958, and a wing was obtained from a bird shot on 27 Dec. There are 8 previous records from Somalia (A&M).

61. *Anas querquedula* Garganey 88. One at Hargeisa on 17 Sep 1958. 19a.

69. *Sagittarius serpentarius* Secretary Bird 103. Thinly distributed on the plains east to Burao. 19a.

71. *Gyps rueppellii* Rüppell's Vulture 106. Archer & Godman (1937) considered this species to be rare. However, individuals were frequently seen between Hargeisa and Sheikh, where the species was not rare within a restricted range. 19ab. Breeding: carrying nest material to cliff sites at Ala'ule at the end of Nov 1956. At another possible nest site at Gaan Libah 40 were seen in Dec 1958. 20a.

72. *Neophron monachus* Hooded Vulture 111. 13a, 19b.

73. *Neophron percnopterus* Egyptian Vulture 110. 10a, 13b, 18b, 27b.

75. *Trionoceph occipitalis* White-headed Vulture 109. Thinly distributed, never more than two together. 18ab.

77. *Circus macrourus* Pallid Harrier 183. Noted Sep and Nov - Jan. 18ad, 19c.

78. *Circus pygargus* Montagu's Harrier 182. One record of 2 males quartering open fields near Gebile on 20 Sep 1958. 18b.

Circus spp. 'Ringtail' harriers. 'Ringtails' were seen in the following squares, in some cases accompanied by male *C. macrourus*. Latest date was 9 Mar at Sebawanak. 10d, 18d, 19a.

83. *Circaetus gallicus pectoralis* Black-chested Snake Eagle 154. 10a, 18d, 19ac.

84. *Terathopius ecaudatus* Bateleur 159. 13a, 18ad, 19bc.

85. *Accipiter badius* Shikra 176. Woodland, but once on the Ban Seila on 13 Apr 1958. 18b, 19c. Breeding: a pair noted adding to a nest at Gedka Debta on 16 Feb 1958, one of which was sitting tight on 4 Apr. Two fledged young were being fed by an adult at Hargeisa on 24 Jun 1958. Also noted by A.R. Tribe (pers. comm.) using the same nest at Daloh (C3 in each case) in 1954 and 1955. 13a, 18b, 19a.

90. *Aquila nipalensis orientalis* Steppe Eagle* 138. Although not certainly identified, the large, dark, almost black birds seen frequently during the winter months were probably this species. Berbera and Hargeisa.

91. *Aquila rapax* Tawny Eagle 139. 18d, 19c. Breeding: 19ac, in Oct and Nov in Hargeisa District. Two chicks newly hatched on 27 Nov 1958.
94. *Butastur rufipennis* Grasshopper Buzzard 158. Migrant, noted 20 Sep to 7 Oct in small numbers from Nabadid east to Mt Wogr. 18b, 19a.
95. *Buteo augur archeri* Augur Buzzard 167. 18b, 19a.
100. *Hieraaetus spilogaster* African Hawk Eagle 143. Breeding: 18a. Half-grown chick noted at Amoud, Borama, 23 Mar 1958.
103. *Melierax gabar* Gabar Goshawk 178. The black form was commonly seen in Hargeisa district, usually forming a mixed pair, but both were black on one occasion. 18ad.
105. *Melierax poliopterus* Pale Chanting Goshawk 179. 18d, 19c. Breeding: 19c, a nest containing 1 well-grown nestling on 19 Nov 1958, at Hargeisa Airfield.
106. *Polemaetus bellicosus* Martial Eagle 146. 13a, 18ad, 19a.
108. *Milvus migrans* Black Kite 132. Widely distributed Sep - May. 13a, 20b. Breeding: at Berbera, sitting tight in Dec. 11c.
110. *Chelictinia riocourii* Swallow-tailed Kite 131. One record of 10 to 12 birds from grass plains near Silil on 29 May 1958. There are only 10 previous records (A&M).
111. *Elanus caeruleus* Black-shouldered Kite 133. Scarce; twice seen singly during Jun 1958. 19cd.
113. *Pandion haliaetus* Osprey 186. 10a.
115. *Falco biarmicus* Lanner Falcon 113. 18b, 19d.
117. *Falco concolor* Sooty Falcon* 118. A.R. Tribe collected an unsexed bird on an unspecified date at Hubera, probably in square 14b near Erigavo where he worked (but there is another Hubera in 12a). This is the tenth record for Somalia (A&M).
119. *Falco naumanni* Lesser Kestrel* 126. Three records in 1958: 15 - 20 on 2 Feb at Biyo Dai, a flock of c.50 on 19 Feb a few miles NW of Hargeisa, and 110 between Bulhar and Sebawanak on 10 Mar. Not seen in other years so possibly of irregular occurrence. 10ac, 18b, 19a. There are only 5 previous records (A&M).
121. *Falco peregrinus* Peregrine Falcon 112. Uncommon: records in Mar, Apr, Oct and Nov. Not racially identified. 18d, 19c.
122. *Falco rupicoloides* White-eyed Kestrel 124. Infrequently seen, with no records for 1958. 19a.
123. *Falco subbuteo* Hobby 115. An immature at Adadleh on 5 Oct 1958. 19b.
124. *Falco tinnunculus* Kestrel 123. Noted frequently on the plateau. Males resembling the nominate race, i.e. with definite black terminal tail bands, were common in the winter months whilst at Borama in Dec-

ember a male with brighter, glossier mantle was noted - probably of the race *carlo*. 13b. Breeding: the resident *archeri* was found sitting on slightly incubated eggs (C3 and C4) at Erigavo on 20 May 1956; one of these nests shared the same tree with that of a Cape Rook *Corvus capensis*, which also had a C3.

125. *Polihierax semitorquatus* Pygmy Falcon 129. Breeding: 3 nests (A, B and C) were located at Hargeisa in riverine acacia woodland in 1958, all in the old nests of White-headed Buffalo Weavers *Dinemellia dinemelli*, and all within 1½ miles (2.4km) of each other. On 21 Mar 3 young were seen in Nest A, and were outside on 9 Apr at which time 2 were noted as males. On 3 Apr 2 immatures were at Nest B. Nest C was discovered on 12 Apr when the pair were mobbed by *Dinemellia*. No young were seen at Nest C, but each nest entrance was marked with excreta. 19a.

126. *Coturnix coturnix* Quail* 211. One at Burao on 26 Sep 1956. 20b. The fifth record for the country (A&M).

131. *Francolinus sephaena* Crested Francolin 194/195. 18d. Breeding: half-grown young were seen at Hargeisa on 18 Apr and 7 May 1958. 19a.

134. *Numida meleagris* 216. 18d.

138. *Gallinula chloropus* Common Moorhen 239. One at Biyo Dai on 29 Jan 1956. 19a.

142. *Porzana parva* Little Crane* 229. A&M show square 19a, but this record refers to an incorrectly labelled female collected at Burao on 9 Oct 1958, therefore the distribution should read 18a, 20b.

149. *Eupodotis humilis* Little Brown Bustard 255. Breeding: a pair with an immature, smaller than the female, at Gaan Libah on 15 Jun 1958. 19b.

151. *Eupodotis ruficrista* Buff-crested Bustard 257. 18b.

153. *Neotis heuglini* Heuglin's Bustard 252. Uncommon. Noted only S of Burao, and SW of Berbera. 10d.

154. *Otis arabs* Arabian Bustard* 249. Two coastal records of single birds at Zeila and Sebawanak on 28 May and 13 Dec 1958. 10a. There are at least 4 previous records from Somalia.

155. *Otis kori* Kori Bustard 250. Open plains and light bush, but was much persecuted. 18b, 19a.

158. *Haematopus ostralegus* Oystercatcher 294. Small parties of up to 12 birds. 11c.

160. *Charadrius asiaticus* Caspian Plover 277. Borama and Hargeisa (maximum 21) 18 - 25 Sep 1958. Two at Sebawanak on 14 Dec 1958. 10a, 19c.

161. *Charadrius dubius* Little Ringed Plover 267. Maximum of 12 at Burao on 13 and 30 Sep 1956; 2 at Bederwanak on 1 Oct 1958. 19a, 20b.

167. *Charadrius tricollaris* Three-banded Plover 272. 20a.

169. *Pluvialis squatarola* Grey Plover 279. One at Loyada in breeding plumage on 28 May 1958. 11c.
170. *Vanellus coronatus* Crowned Plover 281. 13a, 18d, 19c. Breeding: chicks were noted at Erigavo in May 1956, and at Hargeisa in Aug and Sep. Copulation was also observed in Dec 1955. 13a, 19a.
177. *Actitis hypoleucos* Common Sandpiper 312. 10a, 20b.
178. *Numenius arquata* Curlew 311. Coastal, otherwise 1 flying S at Hargeisa on 24 Aug 1958. 19a.
181. *Tringa glareola* Wood Sandpiper 314. 18a.
184. *Tringa stagnatilis* Marsh Sandpiper 317. One at Burao on 13 Sep 1956, appearing with heavy rains. 20b.
187. *Gallinago gallinago* Common Snipe 298. Two (1 collected) 25 Sep - 1 Oct 1958 at Bederwanak. An emaciated bird at Hargeisa on 25 Oct 1958. 19a.
191. *Calidris alpina* Dunlin* 304. One at Berbera 17 Sep 1956 - the eighth record for Somalia (A&M).
200. *Philomachus pugnax* Ruff 309. Small numbers on passage Aug and Sep. Three at Sebawanak on 14 Dec 1958. 10a, 20b.
201. *Arenaria interpres* Turnstone 310. Small numbers on the coast in winter, with 40+ at Berbera on 7 Mar 1958. 11c.
202. *Himantopus himantopus* Black-winged Stilt 296. Two records only. One at Burao on 13 Sep 1956, 5 at Sebawanak on 13 Dec 1958. 20b.
206. *Burhinus capensis* Spotted Thicknee 262. 18b.
209. *Cursorius cursor* Cream-coloured Courser 325. Movements: 6 flying N over the escarpment at Gaan Libah on 19 Dec 1958 may only have been a local movement, but an unusually large flock of 25 - 30 was seen at nearby Go'o the previous day. 10ad. Breeding: a few immatures were at Dubur on 11 Oct 1956. 20a.
210. *Rhinoptilus africanus* Two-banded Courser 327. 20b. Breeding: a newly hatched chick was found on the Ban Seila on 17 Aug 1958. 18d.
214. *Glareola pratincola* Common Pratincole 330. Three records only. An immature at Hargeisa on 13 Aug 1958, 2 (1 immature) at Burao on 13 Sep 1956 and 1 at Berbera on 17 Sep 1956. 11c, 20b. There are only 2 previous records in the north (A&M).
219. *Larus argentatus* Herring Gull 339. Usually some at Berbera in winter, mainly immatures. 11c.
225. *Larus ridibundus* Black-headed Gull 345. Immatures in small numbers at Berbera in Dec and Mar. Also noted at Aden in 1961, where present throughout the summer (Clarke 1967).
230. *Chlidonias leucopterus* White-winged Black Tern 361. One record of 8 near Loyada on 28 May 1958, 1 was in breeding plumage and the rest changing into breeding plumage.

235. *Sterna bengalensis* Lesser Crested Tern 355. 11c.
246. *Pterocles exustus* Chestnut-bellied Sandgrouse 369. 19a.
248. *Pterocles senegallus* Spotted Sandgrouse 368. Coastal only, maximum 88 in Mar and Dec. 11c.
250. *Columba guinea* Speckled Pigeon 379. 19c. Breeding: at Hargeisa in Apr, Oct and Nov. 19a.
251. *Columba livia* Feral Pigeon 376. 11c, 19a.
255. *Streptopelia decipiens* Mourning Dove 387. Seen only at Hargeisa. Breeding: 2 nests containing C2 on 21 - 25 Mar 1958. Copulation seen in Aug. 19a.
259. *Streptopelia semitorquata* Red-eyed Dove 386. 13b, 18ab.
260. *Streptopelia senegalensis* Laughing Dove 392. 13b. Breeding: eggs and nestlings found in Mar, Jul, Aug and Nov at Hargeisa, once in the same bush as *S. decipiens*. 19a.
264. *Treron waalia* Bruce's Green Pigeon 400. Local movements during Mar, Sep and Oct at Hargeisa and Burao where the fig *Ficus* does not occur. 13b, 19a, 20b. Breeding: a bird was collected at Gedka Dehta on 4 May 1958 containing a fully-formed egg. 18b.
265. *Poicephalus rufiventris* Orange-bellied Parrot 448. This species possibly moves out of NW Somalia during the summer months as none was seen Jun - Aug. 18a, 20d.
267. *Corythaixoides leucogaster* White-bellied Go-away Bird 440. 13a, 18a.
269. *Chrysococcyx caprius* Didric Cuckoo 417. Three singly at Hargeisa in Apr, Jun and Jul. 19a.
271. *Clamator glandarius* Great Spotted Cuckoo 413. Infrequently seen in Feb, Apr, Jun and Dec. 18bd, 19d.
274. *Cuculus canorus* Eurasian Cuckoo 404. Seen passing through Hargeisa 19 Jul - 14 Sep. Also 6 on Mt Wogr (4 together) on 14 Oct 1956. They were not determined racially, but in any case, the races recorded from eastern Africa are poorly defined. 13a.
- 274a. *Cuculus clamosus* Black Cuckoo* 407. A.R. Tribe collected a male at Sheikh on 26 Sep 1957, wing 178mm, tail 165mm. This appears to be the first record for Somalia. 20a.
275. *Cuculus gularis* African Cuckoo* 404. One at Borama on 24 May 1958. A bird with a yellow bill was calling up to 20 times a penetrating *cuc-kow*, quite different from the call of *C. canorus*. This is the eighth record for Somalia (A&M).
280. *Centropus superciliosus* White-browed Coucal 423. 18b, 19b.
282. *Athene noctua* Little Owl 537. 18d, 19c. Breeding: at least 1 juvenile seen in a tree at Bederwanak on 29 Nov 1955. An egg was taken from a tree nest at Hargeisa on 25 Mar 1958 and A.R. Tribe

(pers. comm.) collected a family of five from a Galla grave mound near Erigavo. 13a, 19a.

283. *Bubo africanus* Spotted Eagle Owl 543. Two records only, from rocky streambeds where they were day roosting under rock overhangs, at Hargeisa on 23 Dec 1955, and at Dubur on 18 Oct 1956. 19a.

284. *Bubo lacteus* Verreaux's Eagle Owl 544. Breeding: a single fledgling seen at Gedka Debta on 9 Feb 1958, whilst a large unfledged captive chick at Hargeisa had its legs deliberately broken by a Somali, and was destroyed. 18b, 19a.

287. *Glaucidium perlatus* Pearl-spotted Owlet 538. Recorded on 8 occasions: 4 in Feb, once in Apr, 2 in Aug, and once in Sep; all single birds in thick riverside woodland.

297. *Caprimulgus nubicus* Nubian Nightjar 553. Three individuals of the race *torridus* were collected after being killed by vehicles - identified by J.G. Williams.

301. *Apus affinis* Little Swift 643. 19b. Breeding: one colony of 32 - 36 nests under a rock overhang at Monkey Rock N of Adadleh on 13 Jul 1958. 19b.

305. *Apus melba* Alpine Swift 640. 13a.

313. *Apaloderma narina* Narina's Trogon 570. A.R. Tribe collected a female at 1600 m at Bismago, Almadu, on 17 Jul 1955. 4ac.

315. *Ceryle rudis* Pied Kingfisher 465. A male collected by A.R. Tribe at Horufadi on 15 Aug 1957, wing 138 mm, tail 69 mm. He also reported one in mangroves at the mouth of the Silil wadi, 40 km E of Zeila, during the last week of May 1958. 2d, 28a. The first records from north Somalia.

321. *Halcyon leucocephala* Chestnut-bellied Kingfisher 477. Contrary to Archer & Godman (1961) this species was noted only in Apr - Oct. 18bd.

325. *Merops nubicus* Carmine Bee-eater 484. One record of a few birds in a flock of White-throated Bee-eaters *M. albicollis*, at Gedka Debta, 28 - 31 Aug 1955. 18b.

328. *Merops pusillus* Little Bee-eater 488. Breeding: an immature was seen with adults at Hargeisa on 21 Jun 1956. 19a.

329. *Merops revoilii* Somali Bee-eater 491. 18d, 19c. Breeding: an adult was watched carrying food to a nest (observation for 45 min) 32 km S of Hargeisa on 16 Apr 1958. Three days previously 4 eggs had been found below this nest entrance (1 broken), and were judged to be correct for this species (C.W. Mackworth-Praed pers. comm.). They measured 17.5 x 15.0 mm. 19c.

330. *Merops superciliosus* Madagascar Bee-eater 482. Breeding: 6 - 10 nests were found in a wadi bank at Amoud on 24 May 1958. The adults were feeding young. In 1958 A.R. Tribe reported (pers. comm.) that they had bred at Odweina for several years. 18a.

332. *Coracias caudata* Lilac-breasted Roller 460. A summer visitor to northwest Somalia, Mar - Oct, but some birds apparently overwinter for they have been seen in Jan and Feb, prospecting nest sites as early as 3 Mar. 19c. Breeding: at Hargeisa in Apr. 19a.
333. *Coracias garrulus* Eurasian Roller 457. Mainly on passage 16 Sep - 17 Nov, though 1 was at Bihendula on 15 Dec 1958. Only one spring record, at Hargeisa on 4 May 1958. 18b, 19bc, 20b.
336. *Upupa epops* Hoopoe 517/518. 19d.
338. *Phoeniculus minor* Abyssinian Scimitarbill 527. 26a.
339. *Phoeniculus purpureus* Green Wood Hoopoe 519, 521. 13b, 18d. Breeding: bird found sitting in a tree hole at Hargeisa on 9 Apr 1958. 19a.
342. *Tockus erythrorhynchus* Red-billed Hornbill 505. 18a.
343. *Tockus flavirostris* Yellow-billed Hornbill 506. 13b, 18ad. Breeding: a female was found walled into a nest at Hargeisa on 18 Apr 1958. At least one chick was seen on 25 Jun, and the nest was empty by 13 Jul. 19a.
346. *Bucorvus abyssinicus* Abyssinian Ground Hornbill* 516. A few undated records of pairs and small parties from open plains about Nabadid, also twice near Biyo Dai on 9 Sep 1955 and 16 Dec 1956. 19a. Four previous records from Somalia (A&M).
349. *Pogoniulus pusillus* Red-fronted Tinkerbird 594. 13b. Breeding: copulation was noted at Medishe in May 1956. 13b.
351. *Trachyphonus erythrocephalus* Red and Yellow Barbet 601. Occurs alongside *T. margaritatus* at Adadleh and about Mt Wogr. 11c, 19a, 20d.
352. *Trachyphonus margaritatus* Yellow-breasted Barbet 602. Found on the crest of the plateau northwards to the coast. 10a.
353. *Indicator indicator* Black-throated Honeyguide 605. Single birds and pairs at Gedka Debta and Ala'ule. 20a.
360. *Campethera nubica* Nubian Woodpecker 619. Breeding: two chicks at Hargeisa on 17 Mar 1956 left the nest a week later. 19a.
361. *Dendropicos fuscescens* Cardinal Woodpecker 623. Less common than *C. nubica* though as widely distributed. 13a, 18ad.
371. *Eremopterix nigriceps* White-fronted Sparrow Lark 680. 19a, 20c.
372. *Eremopterix signata* Chestnut-headed Sparrow Lark 681. Small flocks on the plateau, infrequent, Jun and Sep - Nov. 18ad, 19ac.
373. *Galerida cristata* Crested Lark 675. 10d.
374. *Galerida fremantlii* Short-tailed Lark 678. Three records only, in Jul and Oct 1958. 19b.
375. *Galerida malabarica* Short-crested Lark 676. 18d, 19c.

381. *Mirafra gilletti* Gillett's Lark 664. 19b.

389. *Hirundo aethiopica* Ethiopian Swallow 1057. Although stated by A&M to be resident, this species was partially migratory in northwest Somalia, as few birds were to be seen Dec - Mar. On 26 Nov 1958 a flock of 82 was noted before they disappeared, whilst definite increases in numbers were noted in Apr.

391. *Hirundo fuligula* African Rock Martin 1073. Breeding: two nestlings seen at Daloh during 22 - 29 May 1956. 13a.

392. *Hirundo rustica* Eurasian Swallow 1054. Common passage migrant. Birds moved eastwards in Apr, a few westwards in Jun with more appearing in Jul. The Jul passage agrees with that observed at Aden (Clarke 1967). 11c, 18d, 19c, 20b.

397. *Dicrurus adsimilis* Drongo 1088. 13b.

401. *Oriolus oriolus* Golden Oriole 1164. 19b, 20a.

402. *Corvus albus* Pied Crow 1172. Wanderers reported from Sheikh in Oct 1956 (Mrs K. Lloyd pers. comm.); from Burao on 28/29 Oct 1958, (J. Corkhill pers. comm.); and Las Dureh (A.R. Tribe pers. comm.) 11d, 20b.

403. *Corvus capensis* Cape Rook 1173. 11c, 13a, 19a. Breeding: found nesting in the same tree as a Kestrel at Erigavo on 20 May 1956. The nestlings were heard but could not be seen. A second nest with C4 was found on 22 May. 13a.

405. *Corvus rhipidurus* Fan-tailed Raven 1177. 18b, 19a.

406. *Corvus ruficollis edithae* Brown-necked Raven 1171. Common, flocking in autumn when 100 were seen at Dubur on 18 Oct 1956. 18d, 19cd.

408. *Remiz musculus* Mouse-coloured Penduline Tit 1161. Two at Burao on 27 Nov 1956. 20b.

409. *Turdoides aylmeri* Scaly Chatterer 733. Infrequently seen in small flocks but only at Hargeisa.

411. *Turdoides rubiginosus* Rufous Chatterer 732. One collected from a dozen birds feeding in herbage and low bush covering an alluvial fan of the Horrof wadi near Borama on 3 Nov 1958. It was sent to J.G. Williams. None was seen subsequently when the site was visited on 4 Dec. The first record of the species from northern Somalia, and it is presumably referable to the nominate race, also new to Somalia.

420. *Pycnonotus barbatus* Common Bulbul 743, 744. Both the races *somaliensis* and *dodsoni* noted, the latter in the east. 13b. Breeding: on 20 Jun 1958 a nest with 3 nestlings was found at Hargeisa, but by 25th it had been destroyed. This nest was concealed under the remains of an old shirt in an otherwise leafless garden bush. Another nest with C3 was found on 8 Aug, 2 eggs hatched and the young had fledged by 27th. 19a.

424. *Cercotrichas galactotes* Rufous Bush Chat 934. All records in

passage months of Mar and Apr, and Aug - Oct, except for a bird at Berbera on 13 Dec 1958. Race(s) not determined.

431. *Irania gutturalis* Irania 920. A white-bellied male was seen at Hargeisa on 13 Apr 1958. 19a, 20b.

434. *Monticola rufocinerea* Little Rock Thrush 853. 13b.

435. *Monticola saxatilis* Rock Thrush 850. Passage migrant generally commonest along the Sheikh/Burao line. One at Hargeisa on 8 Dec 1957.

438. *Oenanthe deserti* Desert Wheatear 857. 10a.

439. *Oenanthe isabellina* Isabelline Wheatear 855. The commonest overwintering wheatear in northwest Somalia. Earliest date was 24 Aug. 10a, 20bcd. A.R. Tribe had specimens from 3c and 13a.

441. *Oenanthe oenanthe* Northern Wheatear 854. At least 3 records from Biyo Dai, Gaan Libah and Hargeisa in Dec and Jan, but could have been commoner and overlooked. 19b.

442. *Oenanthe phillipsi* Somali Wheatear 856. 10d. Breeding: 19a, in Apr at Hargeisa where immatures were noted.

444. *Oenanthe pleschanka* Pied Wheatear 859. Common mid Oct to early Apr. White-throated forms were seen twice.

445. *Phoenicurus ochrurus* Black Redstart 918. A male collected at Gaan Libah on 17 Dec 1958: wing 88 mm, tail 65 mm. 18b.

447. *Saxicola rubetra* Whinchat* 883. One at Hargeisa on 20 Apr 1958. 19a. The ninth record for Somalia (A&M).

449. *Turdus abyssinicus ludoviciae* Somali Blackbird 838. The normal habitat for this distinctive subspecies is juniper forest *Juniperus procera*, but one was noted in citrus orchard at Haraf on 28 Nov 1958. It was presumably moving between juniper stands situated to the east and west along the escarpment. 18b.

Turdus sp. On 12 Oct 1958 whilst on Mt Wogr, a thrush-like bird was seen flying across a glade before disappearing into undergrowth. It was not seen again. The briefest description included: thrush-like shape and size, bright red bill, generally brownish colour with reddish tail and patch in wing, underparts possibly whitish. This description does not agree with any known species. There is a possibility that an undescribed species exists amongst the undergrowth on the mountain. It was not seen by G. Wyman Bury, an ornithologist who spent Jun - Nov 1905 on Mt Wogr; although possibly he spent most of his time in the surrounding country (Archer & Godman 1937).

452. *Acrocephalus baeticatus* African Reed Warbler* 946. Dr J.S. Ash (pers. comm.) suggests that a bird collected, but unfortunately not preserved, in mangroves at Zeila on 29 May 1958, may possibly be this species. Description: olivaceous brown above, with wings and tail browner and less olivaceous. Below, throat and belly whitish, remainder creamy-buff with flanks and undertail browner. The tail was rounded. Wing 56 mm, 1st primary just shorter than coverts, narrow

and sharp pointed; 2nd = 6th, 3rd = 4th = longest, 5th just shorter than 3rd/4th. Notch on inner web of 2nd fell far short of the tip of 8th. Upper mandible blackish, lower yellow-flesh, 12 mm to base of feathers. Gape orange, feet blackish with a hint of greenish, tarsus 21 mm. Dr Ash has kindly provided details of a specimen from similar habitat at Alula for comparison:

	Zeila bird	Alula <i>A. baeticatus</i>	
Winglength	56 mm	55 mm	59 mm
1st primary	just <pc	-3½ mm	=
2nd primary	= 6th	= 5th	= 8th
Longest primary	3rd+4th	3rd + 4th	
5th primary	(-½ mm) just 3/4th	-½ mm	-5 mm
Notch on 2nd primary	<8th	<secondaries	

458. *Acrocephalus stentoreus* Clamorous Reed Warbler* -. Not specifically identified but birds resembling this species were seen in mangrove at Zeila in late May 1958. They were very noisy, but difficult to locate visually, and eluded attempts to obtain a specimen. A large nest was found, and considered by A.R. Tribe, who was also present, to be of this species.

459. *Apalis flávica* Yellow-breasted Apalis 979. 19a.

461. *Camaroptera brachyura* Grey-backed Camaroptera 1011. 13b, 19a.

462. *Camaroptera simplex* Grey Wren Warbler 968. 19c.

475. *Hippolais languida* Upcher's Warbler 937. One was collected on the Ban Seila on 13 Apr 1958 (identified by C.W. Mackworth-Praed). Birds thought to have been this species were seen at Burao 5 - 10 Sep 1956, and in the Sig wadi on 5 Oct 1958. 19b, 20b.

478. *Parisoma boehmi* Banded Parisoma 787. 13a

479/481. *Phylloscopus* 959/961. Noted on spring passage but not specifically identified, 13 Feb to 20 Apr 1956 and 1958. 18bd, 19a.

481. *Phylloscopus trochilus* Willow Warbler 959. A female of the race *acredula* was collected by A.R. Tribe at Sheikh on 28 Apr 1957.

482. *Phylloscopus umbrovirens* Brown Woodland Warbler 964. Observed at Daloh during late May 1956 and at Gaan Libah, when seen daily 17 - 19 Dec 1958.

483. *Prinia gracilis* Striped-backed Prinia 1047. 11c. Breeding: a newly fledged juvenile was being fed by adults 15 km W of Berbera on 7 Mar 1958, 10d.

486. *Spiloptila rufifrons* Red-fronted Warbler 987. Breeding: one noted building a nest in an aloe clump, being attended by a second bird which which took no active part, at Erigavo on 28 May 1956. Two newly fledged young were seen at Hargeisa on 22 Jun 1956. 13a, 19a.

487. *Sylvia atricapilla* Blackcap* 926. On passage from Gaan Libah to Sheikh; a male on 30 Mar 1956, and a few of both sexes 28 - 30 Oct

1956. 19b. There are 7 previous records for Somalia (A&M).

489. *Sylvia communis* Whitethroat 924. Passage migrant, moving through Sheikh in strength in Oct, with a few at Hargeisa in Apr and Sep.

490. *Sylvia curruca* Lesser Whitethroat* 923. One in acacias at Burao on 18 Nov 1956. 20b. Description: grey brown above with the head greyer. Gape to ear-coverts blackish. Creamy white below. The second record for Somalia (A&M).

492. *Sylvia mystacea* Ménétries' Warbler* 930. Three records 26 Jan - 9 Feb 1958 of small parties frequenting light acacia bush at Biyo Dai, and heavier bush at Gedka Dehta. 18b, 19a. Description: head with a dull black cap gradually lightening to grey on mantle. Black of head extending below eye. Eye-ring red. Chin and throat white darkening to a light grey belly. Underwing light grey. Tail blackish, outer feathers white. A second bird showed a browner head. There are 7 previous records for the country (A&M).

493. *Sylvia nana* Desert Warbler* 932. One unsexed bird was collected from low acacia scrub S of Berbera on 27 Dec 1956 and another was seen on the Arori plain on 20 Nov 1956. 10d, 20c. There are 7 previous records (A&M).

495. *Sylvietta brachyura* Northern Crombec 996. 20b.

496. *Sylvietta isabellina* Somali Long-billed Crombec 999. Much less common than *S. brachyura*, apparently requiring denser vegetation. 18d.

498. *Bradornis microrhynchus* Grey Flycatcher 792, 794. 13ab, 18d. Breeding: in Mar 1958 and Oct 1956 at Hargeisa and Dubur, respectively when adults were noted feeding fledged young. 19a, 20a.

504. *Muscicapa striata* Spotted Flycatcher 778. Common passage migrant, 27 Aug - 15 Oct, and 14 Apr - 7 May. A late bird at Zeila on 29 May 1958.

506. *Batis orientalis* Grey-headed Batis 818. 13a.

510. *Terpsiphone viridis* Paradise Flycatcher 832. Small numbers in figs and juniper forest. 13b, 18b, 19a.

512. *Anthus campestris* Tawny Pipit 702. On higher open plains in winter. 18d, 19c, 20bd.

513. *Anthus cervinus* Red-throated Pipit 713. Two were taken at Berbera on 25 Dec 1958, one of which had already assumed the reddish breast 11c.

522. *Motacilla alba* White Wagtail 690. 18a, 20b.

523. *Motacilla cinerea* Grey Wagtail 694. Less plentiful than *M. alba* and confined to the few permanent streams. 18a, 19a, 20b.

524. *Motacilla flava* Yellow Wagtail 695 - 699. A common passage migrant in Sep, returning early Mar and Apr. The following races were identified amongst the large flocks seen: nominate: the commonest race, 18d, 19a; *M. f. lutea*: 2 at Bihendula, 1 Apr 1956, 1 S of Har-

geisa, 13 Apr 1958, 19c; *M. f. thunbergi*: 1 at Berbera, 8 Mar 1958 and 1 at Hargeisa, 14 Apr 1956, 19a; *M. f. feldegg*: 1 at Berbera, 8 Mar 1958.

527. *Dryoscopus gambensis* Northern Puffback* 1131. One or two on 4 occasions at Gedka Dehta 9 Feb - 4 May 1958, a female was collected on 16 Feb. This is the same site where the only previous record of 2 specimens were collected (Archer & Godman 1961, A&M).

529. *Laniarius ferrugineus* Tropical Boubou 1125. Noted only in, or close to, juniper forest; in contrast to *L. funebris* which occupies thick riverine woodland at lower levels, one species apparently excluding the other.

530. *Laniarius funebris* Slate-coloured Boubou 1121. 18b. Breeding: nest-building in early Oct. 20a.

535. *Nilaus afer* Brubru 1098. 13a.

537. *Tchagra jamesi* Three-streaked Tchagra 1135. One record of a pair at Hargeisa on 16 Apr 1956.

540. *Lanius collurio* Red-backed Shrike 1112. Mainly on spring passage, with 2 records in autumn - 1 each in Sep and Oct (vide A&M). 13a, 18d.

542. *Lanius excubitor* Grey Shrike 1100. Birds agreeing with the race *pallidirostris* were seen twice on the Ban Seila on 6 Jan 1957 and 19 Jan 1958, and once at Burao on 16 Sep 1956. However, the coastal race appears to be *aucheri*, single birds were seen in Dec and Apr, and 13 between Zeila and Silil on 29 May 1958; but whether these were migrants or breeding birds is not known. 9a, 18bd, 20b. Breeding: bird with 2 fledged young at Berbera on 8 Mar 1958. The young flew without difficulty, but when sharing the same bush as the adult constantly begged for food, throwing the head well back with the bill wide open, accompanied by a rapid wing shivering. They were grey-brown above, lighter below. A wide dark mark through the eye. Tail not fully grown, blackish with the edges, tip and base white. This is the first breeding record for Somalia, and is presumably referable to the race *aucheri*. 11c. See also *L. somalicus*.

543. *Lanius isabellinus* Red-tailed Shrike 1114. *L. i. phoenicurioides* was noted on 6 occasions 25 Sep - 18 Oct along the Sheikh/Burao line, with some birds returning through Hargeisa in Apr. 20b. The race *speculigerus* was more widespread on autumn passage, 20 Sep - 21 Oct, 8 records; return from 7 Mar - 13 Apr. Some possibly winter on the coast as one was at Sebanak on 14 Dec 1958. 10a, 18d, 20b.

544. *Lanius minor* Lesser Grey Shrike 1103. Four records only, 13 - 27 Apr. 18d, 19c.

545. *Lanius nubicus* Nubian Shrike* 1109. An uncommon regular winter visitor frequenting riverine woodland at Hargeisa; 12 records there during the 1955/56 winter. One at Gaan Libah on 18 Dec 1958, and a sick bird was obtained at Burao on 29 Dec 1958 by H. Playfair (pers. comm.). Extreme dates 14 Sep and 8 Apr. There are only 4 previous records for Somalia (A&M).

547. *Lanius somalicus* Somali Fiscal 1106. 18d. Breeding: an adult was watched feeding 2 fledged young near Berbera on 8 Mar 1958, approximately 1½ km from the breeding Grey Shrikes mentioned above; the present species was a little more advanced. A.R. Tribe found a nest containing 1 nestling at Erigavo on 19 May 1956. 11c, 13a.

548. *Eurocephalus rueppelli* White-crowned Shrike 1097. 18d. Breeding: nest with 1 egg at Gadka Yoghoh on 20 Apr 1956. 18d.

549. *Prionops plumata* Helmet Shrike 1090. Noted infrequently in Mar, Apr, Aug, Sep and Nov.

552. *Cinnyricinclus leucogaster* Violet-backed Starling 1184. A few at Hargeisa on 4 occasions, all 5 Sep - 27 Nov.

553. *Cosmopsarus regius* Golden-breasted Starling 1198. Breeding: family party of 5 at Boghol Jirreh on 3 Jun 1956, when adults were watched feeding fledged young. 19a.

554. *Creatophora cinerea* Wattled Starling 1182. Appeared to be absent between Apr and Jun. 10a, 20b.

555. *Lamprotornis chalybaeus* Blue-eared Glossy Starling 1188. Breeding: fledged young were noted at Hargeisa in Apr. 19a.

558. *Onychognathus blythii* Somali Chestnut-winged Starling 1204. Only in the mountains and N to the coast. 13b, 19a.

561. *Spreo albicapillus* White-crowned Starling 1212. 13b, 18d. Breeding: a nest with 2 chicks at Erigavo on 21 May 1956 which was predated by *Corvus capensis*. An unchecked nest was found at Hargeisa on 16 Apr 1956. 13a, 19a.

563. *Spreo shelleyi* Shelley's Starling 1215. 18d, 19c. Breeding: fledged young at Hargeisa on 17 Jul 1956. 19a.

564. *Spreo superbus* Superb Starling 1216. 13a, 18d, 19c. Breeding: nests with C3 and C4 at Hargeisa in Mar and Apr, usually in a tree hole or under corrugated iron roofs but once in an old nest of *Dinemellia dinemelli*. Also C3 on the bare metal girder of a bridge, which was later deserted. 19a.

566. *Buphagus erythrorhynchus* Red-billed Oxpecker 1218. 13ab. Breeding: fledged young at Hargeisa on 13 Mar 1958. 19a.

568. *Anthreptes orientalis* Eastern Violet-backed Sunbird 1274. Noted only at Hargeisa, but possibly overlooked elsewhere.

572. *Nectarinia habessinica* Shining Sunbird 1240. Breeding: bird noted at Daloh on 29 May 1956, attending a nest at 3 m in a euphorbia. 13a.

573. *Nectarinia hunteri* Hunter's Sunbird 1264. Twice at Burao in Nov and Dec, and at Gedka Debta in Apr.

574. *Nectarinia mariquensis* Mariqua Sunbird 1245. Breeding: nest found at Hargeisa on 25 Mar 1958 at 4½ m in a leafless sapling of *Acacia bussei*. Destroyed by 8 Apr. 19a.

580. *Zosterops abyssinica* Abyssinian White-eye 1219, 1226. A&M state "common in NW east of 49°E", but this should read "west of 49°E", and is supported by the square data. 13b.
585. *Euplectes franciscanus* Northern Red Bishop 1363. Two males at Boghol Jirreh on 17 Sep 1958.
590. *Ploceus galbula* Rüppell's Weaver 1329. 13b.
591. *Ploceus intermedius* Masked Weaver 1319. All records are between 18 May and 26 Nov 1958. From 29 Jul - 5 Aug 200 - 300 were roosting at Hargeisa with many Red-billed *Quelea quelea* (Clarke in prep.) after which date numbers rapidly diminished. 18b. Breeding: 8 - 10 nests under construction at Borama on 20 Sep 1958. 18a.
594. *Ploceus spekei* Speke's Weaver 1314. Breeding: small colony of 30 - 40 nests under construction near Gebile on 29 Apr 1956. 18b.
598. *Bubalornis niger* Red-billed Buffalo Weaver 1285. Two first noted on 20 Nov 1955 at Hargeisa where possibly a new arrival to the area (J.M. Watson pers. comm.) 18b. Breeding: noted in small colonies from Gadka Yoghoh to Hargeisa, where fledged young were seen on 18 Mar 1956. 18b, 19a.
599. *Dinemellia dinemelli* White-headed Buffalo Weaver 1286. Breeding: widespread in Hargeisa valley, nest renovation began in Nov. Noted feeding almost fledged young at Hargeisa Airfield on 1 Mar 1958. 18d, 19ac.
604. *Passer catanopterus* Somali Sparrow 1298. 13a, 19ab.
607. *Passer euchlorus* Arabian Golden Sparrow 1305. Breeding: large colony at Taqusha, Zeila in late May 1958. The nests were placed in Damas trees, and were being attended even though large close-knit flocks of adults and young were roaming the surrounding country. The colony was deserted on 13 - 19 Jul, and none were seen in the area (A.R. Tribe pers. comm.).
609. *Passer motitensis* Rufous Sparrow* 1294. Two records from Gadka Yoghoh in Apr 1956 and Feb 1958. 18d. Breeding: nest-building in Feb. 18d. There are 5 previous records from Somalia (A&M).
614. *Vidua hypocherina* Steel-blue Whydah 1442. Two records in 1958: 7 males at Hargeisa on 27 Mar, and a male with waxbills at Gedka Dehta on 8 Jun.
616. *Vidua paradisaea* Paradise Whydah 1444. Only seen twice, a male at Borama on 12 Dec 1955 and a pair at Hargeisa on 3 Jun 1956.
619. *Estrilda rhodopyga* Crimson-rumped Waxbill 1420. Two records of small parties at Amoud and Gedka Dehta in May and Jun 1958, respectively. A male was collected. There are only 3 previous records from northwest Somalia (A&M).
627. *Amadina fasciata* Cut-throat 1402. 19c.
629. *Lonchura malabarica* Silverbill 1383. Breeding: an adult was seen

feeding 4 fledged young at Borama on 10 Dec 1955, whilst at Hargeisa on 8 Jan 1956 a few family parties of 6 - 8 occurred. 18a, 19a.

630. *Emberiza hortulana* Ortolan Bunting* 1472. An un-sexed immature was collected on Mt Wogr on 22 Oct 1958. There are at least 5 previous records (A&M).

631. *Emberiza poliopleura* Somali Golden-breasted Bunting 1470. 18d, 26a.

632. *Emberiza striolata* House Bunting 1477. One collected by A.R. Tribe at Las Asurat on 16 Jun 1956. 3cd.

635. *Serinus donaldsoni* Grosbeak Canary 1452. A male collected by A.R. Tribe at Yaguri on 18 Jul 1957. 28b.

636. *Serinus dorsostriatus* White-bellied Canary 1449. Breeding: a female was feeding fledged young at Borama on 4 Dec 1958. 18a.

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It is indeed a great pleasure to acknowledge the help and assistance given me in the field by Messrs H. Playfair, J.M. Watson, and especially A.R. Tribe who made it possible for me to visit Erigavo and Zeila. This assistance was backed up by Mr C.W. Mackworth-Praed and Mr J.G. Williams who identified the collected specimens; together with many others, including certain Somalis, who provided assistance and encouragement in many ways - not least with transport. Therefore a special 'thank you' to Lt Col R.G. Hill, Commanding Officer of the Somaliland Scouts, and Mr J. Newkirk, Manager of the Amerada Petroleum Corporation for providing this facility. Finally, if this paper owes anything to anybody it is to Dr John Ash for raising it from the dead, and for his kind assistance in commenting upon the first draft.

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APPENDIX A

Gazetteer

Latitude, longitude and Ash & Miskell $\frac{1}{2} \times \frac{1}{2}$ -degree square reference of places mentioned in the text. The co-ordinates are in degrees and minutes; all latitudes are north of the equator, all longitudes are east of Greenwich.

Adadleh	9 46, 44 40, 19b	Haraf	9 33 43 57, 18b
Ala'ule	9 56, 45 06, 20a	Hargeisa	9 33 44 04, 19a
Almadu	11 00, 48 10, 4c/14a		
Alula	11 58, 50 45, 6b	Horrof	9 55 43 08, 18a
Amoud	9 54, 43 14, 18a	Horufadi	8 35 46 25, 28a
Arori	9 23 45 18, 20c	Hubera (a)	10 40 48 32, 14b
Bederwanak	9 35 44 24, 19a	Hubera (b)	10 31 46 03, 12a
Berbera	10 26 45 02, 11c	Las Asurat	11 10 47 30, 3cd
Bihendula	10 10 45 08, 11c	Las Dureh*	10 11 46 00, 11d
Biyo Dai	9 55 44 19, 19a	Loyada	11 28 43 16, 2c
Boghol Jirreh	9 32 44 01, 19a	Medishe	10 45 47 35, 13b
Borama	9 56 43 11, 18a	Nabadid	9 41 43 27, 18a
Bulhar	10 23 44 25, 10d	Odweina	9 24 45 04, 20c
Burao	9 31 45 34, 20b	Saad Din	11 26 43 27, 2c
Daloh	10 47 47 18, 13a	Sebawanak	10 33 44 09, 10a
Dubur	9 52 45 18, 20a	Seila, Ban	9 15 43 54, 18d
Eik	8 58 45 20, 27a	Sheikh	9 56 45 12, 20a
Erigavo	10 37 47 22, 13a	Sig	9 47 44 42, 19b
Gaan Libah	9 52 44 48, 19b	Silil	10 59 43 26, 9a
Gadka Yoghool	9 29 43 53, 18d	Silil wadi mouth	11 04 43 36, 2d
Gebile	9 42 43 37, 18b	Wogr, Mt	10 01 45 26, 11c
Gedka Debta	9 48 43 59, 18b	Yaguri	8 44 46 57, 28b
Go'o	9 47 44 56, 19b	Zeila	11 21 43 29, 2c

*Also in square 12c

MIDWINTER OBSERVATIONS FROM DJIBOUTI

J.S. Ash

Djibouti, a small country of some 23 000 km², is sandwiched between Somalia and Ethiopia opposite South Yemen and thus at the narrowest sea-crossing between Asia and Africa south of Egypt. It might therefore be expected to have many birds. However, ornithologically it has been extremely poorly known, and it is only in the last few years that some preliminary field observations have been made. Much existing knowledge has been brought together recently by Welch & Welch (1984), referred to as W&W in the text below, but they do not include the few species that they have not seen themselves. The following observations result from a brief visit to the country on 25 - 27 December 1975. The first two days were spent along the coast for up to 6 km east of Djibouti town, and on 27th about 2 hours were spent near the airport.

In the notes which follow there are no published records prior to my observations for those species indicated by an asterisk; and those with two asterisks are additions to the list given in W&W. The $\frac{1}{2} \times \frac{1}{2}$ degree square numbers for each species mentioned have also been included so that they can be traced in the future for mapping distribution, as in Somalia and Ethiopia (Fig. 1 in Ash & Pomeroy 1981). Appended also, together with square numbers, is a complete list of other species of birds reported from Djibouti taken from W&W and the other literature sources listed. Following my own observations I have included in parentheses brief references to previous records. The order and nomenclature follow that of Ash & Miskell (1983).

In midwinter, at least, the area of coastline adjoining Djibouti town is apparently of some importance to waders and a variety of sea-birds. A quick inspection on my first arrival indicated that there were about 8000 waders present of about 18 species, so that the brief period of my visit might be usefully employed in obtaining more information about them. In the event, about 5600 waders were counted, but there were some local feeding movements taking place, and as very suitable habitat extends eastwards for a considerable distance into Somalia the total numbers involved may be very large.

Ardea cinerea Grey Heron: 2 on 26th. (The commonest heron (Simoneau 1974); a few in 4 localities by W&W.)

Ardea goliath Goliath Heron: 2 on 26th. (A few recorded by Navez (in litt.), Simoneau 1974, and W&W.)

Egretta gularis African Reef Heron: at least 75; in one group of 53, 28 were dark and 25 white; there were no intermediates as would occur further south in Somalia. (The white phase said to be very rare (Simoneau 1974); also recorded by Navez 1981, Oustalet 1894, Thesiger & Meynell 1935, and W&W.)

Platalea leucorodia Eurasian Spoonbill: 16 on 26th, presumably of the

- race *archeri*. (Up to 43 by W&W, also recorded by Navez *in litt.*, and Simoneau 1974.)
- Neophron percnopterus* Egyptian Vulture: 2 at Airport on 27th. (The commonest raptor (Simoneau 1974), extremely abundant (W&W), Navez (*in litt.*)).)
- Aquila rapax* Tawny Eagle: 2 on 26th. (Recorded by Simoneau 1974, but only one by W&W; also recorded by Oustalet 1894.)
- Milvus migrans* Black Kite: 1 - 2 on 2 days only. (Recorded as fairly common by W&W, but curiously not at all by Simoneau 1974.)
- **Pandion haliaetus* Osprey: 5 on 25th. (Fairly common according to W&W, but not mentioned by Simoneau 1974.)
- **Falco biarmicus* Lanner Falcon: 1 on 25th. (4 seen by W&W.)
- Haematopus ostralegus* Oystercatcher: 40+ on 25th and 26th. (Several seen by W&W, recorded by Simoneau 1974 and Navez *in litt.*)
- Charadrius alexandrinus* Kentish Plover: 200 on 25th, 250 on 26th, apparently including both northern migrants and local birds. (Up to 20 by W&W, also by Thesiger & Meynell 1935.)
- Charadrius hiaticula* Ringed Plover: 100 on 25th and 26th. (Only a few by W&W; also noted by Navez *in litt.* and Thesiger & Meynell 1935.)
- Charadrius leschenaultii* Great Sandplover: 300 on 26th. (Very few seen by W&W; Thesiger & Meynell 1935.)
- Charadrius mongolus* Mongolian Sandplover: 50 on 25th and 26th. (Very few recorded by W&W; Heuglin 1859.)
- **Pluvialis dominica* Lesser Golden Plover: 21 on 26th. The only record from Djibouti (Ash 1980).
- **Pluvialis squatarola* Grey Plover: 200 on 25th and 26th. (A few reports by W&W; Navez *in litt.*)
- Actitis hypoleucos* Common Sandpiper: 2 on 25th, 5 on 26th. (Small numbers by W&W; Navez *in litt.*, Thesiger & Meynell 1935.)
- Numenius arquata* Curlew: 25 on 25th and 26th. (Fewer by W&W; Navez *in litt.*, Simoneau 1974, Archer & Godman 1937.)
- Numenius phaeopus* Whimbrel: 10 on 25th and 26th. (Similar numbers seen by W&W; Archer & Godman 1937, Navez *in litt.*)
- Tringa nebularia* Greenshank: 3 on 25th, 5 on 26th. (Common - Simoneau 1974; Archer & Godman 1937, Friedmann 1930, Navez *in litt.*, Thesiger & Meynell 1935, W&W.)
- Tringa totanus* Redshank: 75, including a flock of 42, on 25th and 26th. (Numerous in W&W; Archer & Godman 1937, Navez *in litt.*)
- Calidris alba* Sanderling: 1000 on 25th and 26th. (Few by W&W; Archer & Godman 1937.)
- Calidris ferruginea* Curlew Sandpiper: 2000 on 25th and 26th. (Fairly common by W&W; Thesiger & Meynell 1935.)
- Calidris minuta* Little Stint: 250+ on 25th and 26th. (A few by W&W; Friedmann 1930, Thesiger & Meynell 1935, Navez *in litt.*)
- **Limicola falcinellus* Broad-billed Sandpiper: 3 on 25th. (One on 25 March 1983 by W&W.) For other records in the area see Ash (1978).
- Limosa lapponica* Bar-tailed Godwit: 500+ on 25th, 1000+ on 26th. (Very few by W&W; Heuglin 1859, Navez *in litt.*)
- **Arenaria interpres* Turnstone: 500 on 25th and 26th. (Common by W&W; Navez *in litt.*)

- **Larus argentatus* Herring Gull: Fairly common. (Recorded by W&W.)
- **Larus fuscus* Lesser Black-backed Gull: Very common. (Navez in litt., W&W.)
- **Larus hemprichii* Sooty Gull: Very common. (Very common by W&W; Navez 1981, Simoneau 1974.)
- **Larus leucophthalmus* White-eyed Gull: One on 26th. (Up to 50 by W&W; Navez 1981.)
- **Larus ridibundus* Black-headed Gull: 15 on 25th and 26th. (Up to 16 by W&W.)
- **Gelochelidon nilotica* Gull-billed Tern: 10 on 25th, 50 on 26th. (Up to 10 by W&W; Navez in litt.)
- **Sterna bengalensis* Lesser Crested Tern: 500 on 25th and 26th. (Relatively few by W&W; Navez 1981.)
- **Sterna albifrons* Little Tern: 25 on 25th and 26th. (Very few by W&W; Navez 1981.)
- **Sterna bergii* Crested Tern: 3 on 25th. (Rather more seen by W&W.)
- **Sterna caspia* Caspian Tern: 15 on 25th and 26th. (Two by W&W; Navez in litt., Simoneau 1974.)
- ***Sterna repressa* White-cheeked Tern: 3 on 25th. The only record for Djibouti.
- ***Sterna sandwicensis* Sandwich Tern: 1 on 25th. The only record from Djibouti. This species is evidently commoner in the Gulf of Aden than the existing few records suggest, for I saw over 100 on the Hadhramaut coast on 27 November 1984.
- Psittacula krameri* Rose-ringed Parakeet: 15 on 26th. (Two by W&W; Navez 1981, Simoneau 1974.)
- **Corvus splendens* Indian House Crow: 25+ daily in the town and on the beach. (Extremely numerous in Djibouti and 18 at Obock; has obviously increased greatly (W&W); they were first seen in Djibouti by Clarke (1967) in 1958, then again by Dr A.S. Cheke (in litt.). The major increase in Djibouti is similar to that elsewhere in the Afro-Arabian area (Ash 1984).
- Pycnonotus barbatus* Common Bulbul: Fairly common in urban areas. (Fairly common by W&W; Navez in litt., Oustalet 1894, Thesiger & Meynell 1935.)
- **Oenanthe isabellina* Isabelline Wheatear: 2 on 25th. (One by W&W.)
- Hippolais pallida* Olivaceous Warbler: 2 at the Airport on 27th. (A few by W&W; Heuglin 1859.)
- **Prinia gracilis* Striped-backed Prinia: Common in urban areas and along the head of the beach. (Common by W&W; Navez in litt., Ash 1982.)
- **Motacilla alba* White Wagtail: 10 on 25th. (A few by W&W.)
- **Motacilla flava* Yellow Wagtail: 1 on 25th. (Common by W&W.)
- Nectarinia habessinica* Shining Sunbird: 2 on 27th. (A few by W&W; Oustalet 1894, Thesiger & Meynell 1935.)
- Ploceus galbula* Rüppell's Weaver: A female on 25th, 10+, including adult males, at the Airport on 27th. (Very common by W&W; Archer & Godman 1961; Friedmann 1937; Oustalet 1894; Thesiger & Meynell 1935.)
- **Passer euchlorus* Arabian Golden Sparrow: 15 at the Airport on 27th,

some singing and sitting in *Stereospermum*-like trees; they were identical with birds in Yemen and further east in Somalia. *Passer luteus* (the Golden Sparrow) is spreading south and is now very close to the Djibouti border, and it is conceivable that the two species may meet at some time (Ash et al. 1980). (Quite common by W&W.)

ADDITIONAL SPECIES

The following list is of all the other species, as well as those discussed above, recorded from Djibouti. The great majority are from Welch & Welch (1984).

The record locality square numbers are given for each species and include my own, other literature sources, and the many provided by G.R. and H.J. Welch (in litt.).

Pelecanus rufescens Pink-backed Pelican 4b, 5a. *Sula leucogaster* Brown Booby 2c. *Bubulcus ibis* Cattle Egret 5a. *Butorides striatus* Green-backed Heron 5a. *Egretta garzetta* Little Egret 5a. *Ciconia abdimii* Abdim's Stork 4b, 5a. *Threskiornis aethiopica* Sacred Ibis 5a. *Phoenicopterus ruber* Greater Flamingo 5a. *Neophron rueppellii* Rüppell's Vulture 4b. *Circus aeruginosus* Marsh Harrier 4b, 5a. *C. macrourus* Pallid Harrier 2c, 4bd, 5a. *C. pygargus* Montagu's Harrier 4b. *Circus aethiops* Short-toed Eagle 4b. *Accipiter badius* Shikra 4b. **A. nisus* Eurasian Sparrowhawk 4b. **Aquila heliaca* Imperial Eagle 4b. **A. nipalensis* Steppe Eagle 4b, 5a. *A. verreauxi* Verreaux's Eagle 4b. *Buteo buteo* Common Buzzard 4b. *B. rufinus* Long-legged Buzzard 4b. *Hieraaetus pennatus* Booted Eagle 2c, 4b, 5a. *H. spilogaster* African Hawk Eagle 4b. *Falco concolor* Sooty Falcon 2c. *F. naumanni* Lesser Kestrel 4b. *F. tinnunculus* Kestrel 4b.

Francolinus ochropectus Djibouti Francolin 4b. *Otis arabs* Arabian Bustard 4d. *Charadrius dubius* Little Ringed Plover 5a. *Pluvialis dominica* Lesser Golden Plover 5a. *Tringa glareola* Wood Sandpiper 5a. *T. ochropus* Green Sandpiper 4b, 5a. *Xenus cinereus* Terek Sandpiper 5a. *Calidris alpina* Dunlin 5a. *Dromas ardeola* Crab Plover 2c, 5a. *Burhinus capensis* Spotted Thicknee 4c. *Stercorarius pomarinus* Pomarine Skua 5a. *Chlidonias leucopterus* Whiskered Tern 5a. *Sterna fuscata* Sooty Tern 5a breeding. *Pterocles lichtensteinii* Lichtenstein's Sandgrouse 5a. *P. senegallus* Spotted Sandgrouse 2c. *Columba arquatrix* Olive Pigeon 4b. *C. guinea* Speckled Pigeon 4bd, 5a. *Oena capensis* Namaqua Dove 2c, 5a. *Streptopelia roseogrisea* Pink-headed Dove 4b, 5a. *S. senegalensis* Laughing Dove 4b, 5a. *Treron waalia* Bruce's Green Pigeon 4b. *Otus scops* Scops Owl 4b. *Caprimulgus inornatus* Plain Nightjar 4c. *C. nubicus* Nubian Nightjar 4d, 5a (tamaricis).

Apus affinis Little Swift 5a. **A. pallidus* Pallid Swift 4b. *Cypsiurus parvus* Palm Swift 5a. *Merops albicollis* White-throated Bee-eater 4bc. *M. apiaster* Eurasian Bee-eater 2c, 4bd, 5a. *M. persicus* or *superciliatus* Blue-cheeked or Madagascar Bee-eater 4b, 5a (breeding). *Upupa epops* Hoopoe 4b, 5a. *Tockus flavirostris* Yellow-billed Hornbill 4b. *T. hemprichii* Hemprich's Hornbill 4b. *Lybius melanocephalus* Black-throated Barbet 4bc. *Trachyphonus margaritatus* Yellow-breasted Barbet

4bcd, 5a. *Campethera nubica* Nubian Woodpecker 4b. *Dendropicos fuscescens* 4bc.

Alaemon alaudipes Hoopoe Lark 2c, 4bd, 5a. *Ammomanes deserti* Desert Lark 2c, 4abcd. *Eremopterix nigriceps* White-fronted Sparrow Lark 2c, 4bcd, 5a. *Galerida cristata* Crested Lark 4bd, 5a. *Hirundo fuligula* African Rock Martin 4bd, 5a. *H. rustica* Eurasian Swallow 2c, 4bd, 5a. *Dicrurus adsimilis* Drongo 4b. *Oriolus oriolus* Golden Oriole 4c. *Corvus rhipidurus* Fan-tailed Raven 4b, 5a. *C. ruficollis* Brown-necked Raven 5a. *Cercomela melanura* Black-tailed Rock Chat 4bc, 5a. *Cercotrichas galactotes* Rufous Bush Chat 4bcd, 5a. *C. podobe* Black Bush Robin 4b. *Irania gutturalis* Irania 5a. *Monticola saxatilis* Rock Thrush 4b. *M. solitaria* Blue Rock Thrush 4b. **Oenanthe bottae* Red-breasted Wheatear 4b. *O. hispanica* Black-eared Wheatear 4b. *O. leucopyga* White-rumped Wheatear 4c. **O. monacha* Hooded Wheatear 5a. *O. pleschanka* Pied Wheatear 4b, 5a. *Phoenicurus ochruros* Black Redstart 4b. *P. phoenicurus* Redstart 4bd, 5a. *Saxicola torquata* Stonechat 4b. *Turdus philomelos* Song Thrush 4b.

Acrocephalus arundinaceus zarudnyi Great Reed Warbler 4c. *Camaropectera brachyura* Grey-backed Camaropectera 4b. *Phylloscopus sibilatrix* Wood Warbler 4b. *P. trochilus* Willow Warbler 4bcd, 5a. *P. umbrovirens* Brown Woodland Warbler 4b. *Spiloptila rufifrons* Red-fronted Warbler 4bcd. *Sylvia atricapilla* Blackcap 5a. *S. borin* Garden Warbler 4c. *S. communis* Whitethroat 4c, 5a. *S. nisoria* Barred Warbler 4c, 5a. **S. ruepelli* Rüppell's Warbler 4b. *Sylvietta brachyura* Northern Crombec 4bd. *Muscicapa striata* Spotted Flycatcher 4c. *Batis orientalis* Grey-headed Batis 4bc. *Terpsiphone viridis* Paradise Flycatcher 4b.

Anthus campestris Tawny Pipit 2c, 5a. *A. cervinus* Red-throated Pipit 4b, 5a. *A. novaeseelandiae* Richard's Pipit 4b. *A. similis* Long-billed Pipit 4b. *A. trivialis* Tree Pipit 4c, 5a. *Motacilla cinerea* Grey Wagtail 4b. *Laniarius ferrugineus* Tropical Boubou 4b. *Rhodophoneus cruentus* 2c, 4bc, 5a. *Tchagra senegala* Black-headed Tchagra 4b. *Lanius excubitor* Grey Shrike 4bc, 5a. *L. isabellinus* Red-tailed Shrike 4b, 5a. *L. somalicus* Somali Fiscal 4b. *Cinnyricinclus leucogaster* Violet-backed Starling 4bc. *Onychognathus blythii* Somali Chestnut-winged Starling 4b. *Buphagus erythrorhynchus* Red-billed Oxpecker 4b. *Anthreptes platurus* Pygmy Sunbird 4bc, 5a. *Nectarinia habessinica* Shining Sunbird 4b, 5a. *Zosterops abyssinica* Abyssinian White-eye 4b.

Ploceus galbula Rüppell's Weaver 4b, 5a. *Passer griseus* Grey-headed Sparrow 4d, 5a. *Lagonosticta senegala* Red-billed Firefinch 4b, 5a. *Lonchura malabarica* Silverbill 4b, 5a. *Emberiza striolata* House Bunting 4b. *E. tahapisi* Cinnamon-breasted Rock Bunting 4b, 5a. *Serinus atrogularis* Yellow-rumped Seed-eater 4b

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J.S. Ash, Division of Birds, National Museum of Natural History, Smit Smithsonian Institution, Washington D.C. 20560, U.S.A.

(Received 23 February 1985)

ADDENDUM

Page 47 above: the English name Rosy-patched Shrike was omitted from *Rhodophoneus cruentus*.



ADDENDA

The following two species accounts were omitted from Mr N.R. Fuggles-Couchman's paper 'The distribution of, and other notes on, some birds of Tanzania - Part II (continued)' printed in *Scopus* 8: 81-92. We offer our apologies to the author and readers for this mistake.

Apalis thoracica Bar-throated Apalis

The range of this species as given by Britton (1980) for the race *griseiceps* should be extended southwards from the Nou Forest, Mbulu, to include Mt Hanang where, in February 1946, it was numerous in the forests above Nangwa, up to 2300 m. A male (46/21) was collected there on 5 February. This apalis was also recorded from a dry type of gallery forest on the northern slopes of the mountain in the same month.

In January 1961 this species was found in the forest above Bismarck Hut on Mt Kilimanjaro, and is notable for the altitude of that locality, 3200 m, which is 500 m higher than the altitudinal limit given by Britton (1980).

Camaroptera brachyura Grey-backed Camaroptera

Britton (1980) gives the range of the race *fugglescouchmani* as from the Ulugurus to Mahenge. This should be extended northwards to include the Nguru Mts. Moreau (1939) described this new race and gave its distribution as "Uluguru and Nguru Mts in evergreen forest". The inclusion of the Nguru Mts was based on a male (38/17) collected for him in evergreen forest near Mhonda Mission at 650 m, in August 1938, to which there is reference in the original description.

SHORT COMMUNICATIONS

SHOEBILL *BALAENICEPS REX*: A DELETION FROM THE KENYA AVIFAUNA

It was with a blend of interest and concern that we read I.S.C. Parker's (1984) admission of an orchestrated hoax which resulted in the erroneous inclusion of the Shoebill in the avifauna of Kenya, both in Britton (1978) and Britton (1980).

Though there is no proper evidence that the Shoebill has ever occurred in Kenya, it is worth placing a 1969 experience on record. Prior to the partial draining of Yala Swamp, as part of an agronomy and food production project in 1970-72, we were privileged to spend a day in the then undisturbed swamp. In a canoe, we traversed about 12 km of papyrus in the southwestern part of the swamp, from the edge to the Yala River, along the river, and back to our point of entry. It was a rewarding experience which we will always cherish. Species endemic to papyrus, such as Papyrus Gonolek *Laniarius mufumbiri*, were numerous, and it became clear from discussion, in the Luo language, that our guides knew the Shoebill. They said that it was only the occasional individual seen, rather than territorial or sedentary birds. We have not visited Yala Swamp since 1972, but the damage done, apparently irrevocable, precludes the opportunity to confirm or refute the occurrence of this magnificent bird in Kenya.

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Peter & Hazel Britton, *All Souls' & St Gabriel's School, Charters Towers, Q 4820, Australia*

Received 10 February 1985

Scopus 9: 50, June 1985

GROUND NESTING OF EMERALD-SPOTTED WOOD DOVE *TURTUR CHALCOSPILOS*

On 26 September 1983 a nest of an Emerald-spotted Wood Dove was located along the coast 17 km north of Dar es Salaam, Tanzania at 6.37S, 39.11E. The nest contained two eggs and was unusual in both its construction and siting. The surrounding area is coastal bush with adjacent mature gardens and local *shambas*. There is no shortage of available normal nesting sites, and the dove is common in the area. However, this nest was on the ground, a sand bar formed inland of a bay and associated mangroves. The nest was well away from any trees or bushes but just inside the overhanging stems of a creeping legume that is a common early colonizer of exposed sand. These stems offered a certain degree of camouflage but no other protection. Dead plant material around the nest also aided its concealment.

The nest was a slight depression among this debris, its material consisted of a few short twigs and dead grass stalks, certainly much less than the usual 'twiggy' structure built by the species. The sand could be seen clearly through the nest and actually formed the slight cup holding the eggs. There is no known record of any *Turtur* species nesting on the ground, although it is probably more common than this one record would suggest (D. Goodwin pers. comm.). Interestingly, J.S. Ash (pers. comm.) found that nests of *T. chalcospilos* in Somalia were often exposed on the tops of small bushes.

A direct result of the chosen nest site was that the nest and contents were exposed to the sun when the sitting bird left. When the nest was first found, at 11:00, the incubating bird sat tight (even compressing its feathers to reduce its apparent size) allowing a close approach of 2 m before flying away. A return visit 30 minutes later to photograph the nest found the bird standing astride the eggs, panting. No gular flutter was observed during this rather heavy panting, although this is recorded for doves above 40C (D.L. Serventy in Farner & King 1971). Clearly the bird was shading the eggs from the sun and it seemed more concerned with that than my presence several metres away. Eventually photographs were obtained from 3 m. During the several minutes used for photography the bird remained motionless and stayed over the eggs while I moved away. There is no known record of any species of Columbidae shading its eggs to cool them. It has been suggested (D. Goodwin pers. comm.) that the eggs were too warm for the adult to bear against its skin and this, rather than the need for shade, prevented the bird from sitting. However, body temperatures above 44C have been recorded for doves and the instinct to incubate is strong.

Even assuming that this particular individual had always been a ground nester, its action in shading the eggs seems remarkable. It implies that the bird sensed that the eggs were too warm, and therefore needed cooling. It is likely that heat from the sand and direct heat from the sun (after I had flushed the bird) increased the temperature of the eggs considerably, probably approaching 40.5C, which is the maximum survival temperature in domestic hens (R. Dent in Farner & King 1975).

Thermosensitivity through the bill is recorded for other members of the Columbidae which would perhaps rarely have need of this facility, and its development in the family is probably slight. However, these observations suggest that it may be far from dormant, and that it can be utilized when necessary. Slides taken of the bird standing astride the eggs are lodged in the British Museum, Tring. Unfortunately it was not possible to return to the site and the outcome of the clutch is unknown.

ACKNOWLEDGEMENTS

I wish to thank Mr Derek Goodwin for his helpful comments on an earlier draft of this note.

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N.E. Baker, Box 5272, Dar es Salaam, Tanzania Received 6 March 1985

Scopus 9: 50-52, June 1985

PROTECTIVE BEHAVIOUR IN A NESTLING RED-CHESTED CUCKOO
CUCULUS SOLITARIUS

In early December 1984 my wife found the nest of a Robin Chat *Cossypha caffra* situated at the base of a potted *Cymbidium* orchid in our garden at Langata, near Nairobi, Kenya. The cupped nest, although partially concealed by the long green leaves of the orchid, was only 1.5 m off the ground and allowed easy observation from above. The nest contained two eggs, the smaller being heavily marked with dull reddish brown on a paler background, the larger she described as being bluish in colour, and had probably been laid by a Red-chested Cuckoo (later proved correct). Several days later my daughter noticed that a chick was present and that one egg had been evicted and was lying undamaged a few centimetres outside the nest.

I observed the nestling, clearly a cuckoo, possibly 7 - 10 days after hatching; unfortunately no accurate record of dates had been kept. With unimpaired observation from above, the cup of the nest was completely filled by the nestling cuckoo which, unless disturbed, remained absolutely still. The plumage was striking in that the whole was deep slate with off-white elongated spots giving the impression to Robert M. Glen, who was with me, of a tightly coiled adder. Small feathers appeared to grow forwards from the forehead, virtually concealing the black bill and giving a blunted semblance to the head.

The initial impression of a coiled viper was reinforced when a finger was pointed towards the nestling. When reaching to within some 3 - 4 cm from the dormant bird, suddenly, with an apparently calculated lunge and stab, the head would be shot forward with a wide open bright orange gape, enough to make the most hardened snake-catcher recoil in alarm.

Robert Glen likened the nestling's reaction to the striking of a Tree-viper *Atheris* sp. which he had encountered in the Impenetrable Forest of western Uganda; these aggressive small snakes also have a wide gape with an orange mouth colour.

Despite a wide search in published literature, including Friedmann (1968), I can find no reference to similar protective behaviour demonstrated by other nestlings of the cuckoo family. The only photograph of a recently fledged bird I was able to locate which gives some idea of the reptilian appearance of the nestling is in van Som-

eren's *Days with birds* (1956, p. 155).

A month later, the young cuckoo was observed, in its subadult plumage, at close quarters being fed by the two Robin Chats, usually within 20 m of the nest.

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- A.L. Archer, *Wildlife Services Limited, Box 30678, Nairobi*
- Scopus* 9: 52-53, June 1985

Received 25 April 1985

GILLETT'S LARK *MIRAFRA GILLETTI* NEW TO KENYA

One of us (JEM) has already provided evidence *in litt.* for *A bird atlas of Kenya* (Lewis & Pomeroy in prep.) to show that Gillett's Lark has occurred in the country. This was based on specimens collected 84 years ago in northeastern Kenya and summarized in Erlanger (1907). Recently a full list of the 24 specimens collected by Erlanger in the border area of Ethiopia, Somalia and Kenya has been found in Hilgert (1908), and at least 14 of these were actually within Kenya.

We have used the map in Erlanger (1902) as well as the U.S. Army Map Service 1: 500,000 Sheet NA 37/3, Series Y401, Edition 3-GSGS for El Wak in order to trace the localities. The Kenya records are as follows (co-ordinates in degrees and minutes; m = male, f = female):

- Handotu (=Handudu) 3.57N, 41.53E, 1m, 2 May 1901
 Karo-Lola (=Garolola) 3.51N, 41.40E, 3m, 3 May 1901
 Karo-Lola, 3m, 5 May 1901
 Karo-Lola, 2m, 7 May 1901
 Sarigo (=Sarego) 3.43N, 41.30E, 1m, 8 May 1901
 Gordoba-Djira (=Gordoba-Gira, =Gordoba-Dschira) c. 3.33N, 41.27E, 1m, 9 May 1901
 Gordoba-Djira, 1f, 10 May 1901
 Djeroko (=Jeroko, =Dschiroka) 3.25N, 41.18E, 1m, 1f, 12 May 1901

The following locality is on the Kenya/Somalia border:

- Damaso (=Damassa, =Damas) 3.09N, 41.20E, 1m, 14 May 1901
 Damaso, 1m, 1f, 15 May 1901

The following locality is probably on the border or just on the Somalia side:

- Wante (?=Uenti Digo or Uenti Dima) c. 2.54N, 41.05E, 1f, 19 May 1901

Other localities referred to, including Darassum, Malka Re, Guna, Ab-rona and Kote-Serira are in Ethiopia or Somalia. Garre-Liwin is the name of a general area including several of the above localities.

This lark is common in Somalia to the east of Erlanger's sites, but does not extend south beyond 2°N (Ash & Miskell 1983). To the north it extends westwards in southern Ethiopia to at least 39°30'E, and possibly further, so that it may also occur in extreme northeastern Kenya at other sites as far west as Moyale (3.32N, 39.04E). The specimens under discussion should be referable to the race *arorihensis* (Erard 1975), although the possibility that *Mirafraga degodiensis* might occur should not be overlooked. This recently described species (Erard *loc. cit.*) is known from the type locality only, but it is interesting to note that this is in an area of southeastern Ethiopia from which there are no records of *M. gilletti*, although they occur in all directions within a short distance.

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- J.E. Miskell, CARE, c/o UNHCR, Box 2925, Mogadishu, Somalia and J.S. Ash, Division of Birds, Smithsonian Institution, Washington D.C. 20560, U.S.A.

Received 10 April 1985

Scopus 9: 53-54, June 1985

LEUCISTIC SOMALI BIRDS

Following on from Lewis' (1983) observation of a leucistic Common Bulbul *Pycnonotus barbatus tricolor*, it may be of interest in view of the geographical separation to record a leucistic specimen of *P. b. somaliensis*, and a partly leucistic specimen of the Red Somali Lark *Mirafraga africana sharpii*.

On 13 April 1958, a male Red Somali Lark was collected on the Ban Seila at approximately 9°15'N, 43°50'E (the type locality) and was deposited in the British Museum (Natural History). On examination this bird was found to have the following feathers white, in an apparently otherwise normal plumage: left wing - 2nd primary covert,

right wing - 1st - 7th primary coverts, inclusive; 4th primary, white with a buff tinge on the outer web. (All measured ascendingly.)

Also of great interest was the fact that the testes were enlarged and measured 9×5 and 8×4 mm; other measurements were wing 107 mm, tarsus 32 mm and culmen 15.5 mm. The bird had been calling from the top of a zariba.

The Common Bulbul was noted on 16 December 1958 at Sheikh ($9^{\circ}56'N$, $45^{\circ}12'E$) and was one of a pair, the other bird being normal in colouration. They were frequenting a house garden. In this bird the plumage was generally creamy white except for some buff-brown marks on the tail. The normal black/brown of the head was a burnt brown, and the bill and feet were black.

The above are the only records of leucistic specimens obtained during the periods of observation in northwestern Somalia from April 1955 to January 1957, and December 1957 to December 1958, all months inclusive.

ACKNOWLEDGEMENTS

My grateful thanks are due to Mr C.W. Mackworth-Praed for kindly identifying and accepting the Red Somali Lark.

REFERENCE

LEWIS, A.D. 1983. A leucistic Common Bulbul *Pycnonotus barbatus*. *Scopus* 7: 94-95.

G. Clarke, Juniper House, 2 Bellingham Road, Kendal LA9 5JW, U.K.

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REVIEWS

Southern Birds - a journal of the Witwatersrand Bird Club, a branch of the Southern African Ornithological Society.

This is a journal with a difference. Each part consists of an annotated check-list, plus a wealth of introductory matter, maps, figures and habitat photographs, covering an individual area within the Southern African faunal sub-region. The journal is produced slightly under A5 size, on good quality paper, in typewriting (like *Scopus*).

Four issues have been sent for review: Number 9, Birds of the Cradock District by J. Collett (price R3.00); Number 10, Birds of Mataffin, Eastern Transvaal by D.G. Hall (R3.00); Number 11, Birds of Kangwane (Mswati District) by P.C. Lawson and J.A. Edmonds (R6.00); Number 12, Birds of Remhoogte (Prince Albert Division) by J.M. and M.G. Winterbottom (R5.00).

The series can be recommended to anyone visiting the areas covered

and also, as models, to those contemplating writing similar accounts of the birds of other localities in Africa. The issues are obtainable from Southern Birds, Box 65284, Benmore, 2010 South Africa.

Proceedings of the Second Symposium on African Predatory Birds. J.M. Mendelsohn and C.W. Sapsford, pp. vi + 254, 170 x 249 mm, softback. Available from the Natal Bird Club, c/o Durban Natural History Museum, Box 4085, Durban, 4000 South Africa. ISBN 0 620 07909 6. Price R22.00.

Consists of 43 papers (18 in abstract only) given in August 1983 covering birds of prey, most of which occur in eastern Africa although none of the authors was from our area. Useful to those interested in the group.

Birds of Chembe - a check-list. Phil Gregory. Available from the author at the Wildlife Conservation Society of Zambia, Box 23484 Kitwe Zambia. 1984.

A useful 24 pp. A4 cyclostyled (on one side only) annotated list with a sketch map and introductory remarks covering this 450-ha reserve in the Copperbelt. A total of 306 species is recorded. Ends with four pages of black and white drawings of birds by Quentin Allen.

(Reviews by G.C. Backhurst)

NOTICES

COLOUR-RINGED GREENSHANK

A.J. Tree has been colour-ringing Greenshank *Tringa nebularia* in southern Africa. The colour rings are on the tibia. Details of any sightings should be sent to A.J. Tree, Box 70, Bathurst, Eastern Cape 6166 South Africa, noting the colours and the leg ringed. All letters will be acknowledged and ringing details forwarded.

ICBP TECHNICAL PUBLICATIONS

Details have been received of the following four publications from the International Council for Bird Preservation headquarters in England. East African *Scopus* subscribers will find a leaflet and order form for these and other ICBP publications in this issue. Readers elsewhere may order from the ICBP, 219c Huntingdon Road, Cambridge CB3 0DL, U.K. The prices quoted (in sterling) include surface mailing.

Status and conservation of the world's seabirds, edited by J.P. Croxall, P.G.H. Evans and R.W. Schreiber. 778 pp. £26.90.

Conservations of island birds, edited by P.J. Moors. 276 pp. £16.50.

Conservation of tropical forests, edited by A.W. Diamond and T.E. Lovejoy. 324 pp. £18.50.

Threatened birds of Africa and related islands, by N.J. Collar and S.N. Stuart. 796 pp. £24.00.

Any reference cited should be listed at the end of the contribution following the form used in this issue. Names of periodicals must be given in full and, in the case of books, the town of publication and the publisher should be given. A number of works, which are cited frequently, should not be listed under 'References'; the name(s) of the author(s) and date(s) of publication should be given in the text in the normal way.

All contributions, which will be acknowledged, should be sent to the Editor, G.C. Backhurst, Box 24702, Nairobi.

WORKS WHICH SHOULD NOT BE LISTED UNDER 'REFERENCES'

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EAST AFRICAN BIRD REPORT

This forms the fifth issue of *Scopus* and each report covers one calendar year. Records of Afrotropical Region and Oceanic birds should be sent to D.A. Turner, Box 48019, Nairobi; records of Palaearctic Region birds to Dr D.J. Pearson, Department of Biochemistry, University of Nairobi, Box 30197, Nairobi. Records should be sent in early in the new year to ensure the speedy production of the Bird Report. Reports of rare birds may be telephoned through to any OS-C member (numbers inside front cover) in the hope that the bird(s) may be seen by others.

Criteria covering the submission of Bird Report records are given in *Scopus* Supplement, June 1982, copies of which are available from D.A. Turner.

BIRDS OF EAST AFRICA

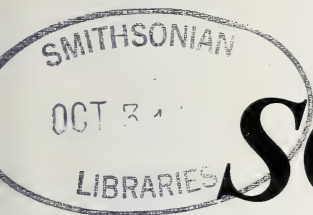
Copies of this 270-page book are available from the Secretary, EANHS, Box 44486, Nairobi, for Stg£8.00 or US\$17.00 surface mail to anywhere in the world.

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Scopus welcomes original contributions in English on all aspects of the ornithology of eastern Africa. Contributions will be assessed by the members of the OS-C and/or by independent referees. The material published in *Scopus* is divided into 'papers' and 'short communications', the latter will usually be less than two pages in length. Authors of 'papers' are entitled to five copies of their contribution *gratis*. Extra copies, which will be supplied at cost, must be ordered when the MS is submitted.

Contributions should be typed in 1½ or double spacing on one side of the paper only, with wide margins all round, and should be submitted in duplicate. Exceptionally clear hand-written MSS will be considered but these too should be sent in duplicate. Both English and scientific names of birds should be given when the species is first mentioned, thereafter only one should be used; they should be those of *Birds of East Africa* unless the species does not occur in that work.

Tables, which should be numbered, *should appear in the typescript, NOT grouped on separate sheets at the end*. Metric units should be used.

Illustrations should be on good quality white paper, bristol board or tracing material, in line, and should not be larger than 19 x 23 cm. Lettering (in black) will be the responsibility of the author and should be done neatly in Letraset (or similar), no larger than 14 point (3.9 mm). Each illustration should be numbered (Fig. 1, etc.) and be provided with a legend typed on a separate sheet of paper. Photographs will also be considered.

THE ECOLOGY OF THE LAND-BIRDS OF TSAVO EAST
NATIONAL PARK, KENYA

(continued)

Peter Lack

Kingfishers Alcedinidae

Only two of the six species concern us here. The Striped Kingfisher *Halcyon chelicuti* was a resident which occurred fairly commonly wherever there were large trees with some open ground underneath. It was especially common in Riverine where these requirements are most often met. The Chestnut-bellied *H. leucocephala* had similar requirements, but had a more marked preference for Riverine. When it was seen elsewhere, it was usually near waterholes. Despite these habitat preferences I did not see either species feed from the water. The Chestnut-bellied was markedly seasonal in its occurrence in Tsavo although one or two could usually be found in any month. Some may move only a short distance. Tennent (1962) found the species around Kitui (250 km NNW of Voi and 500 m higher) between July and September and again in February and March. It is also known as a longer distance migrant, viz. the two ringing recoveries in Kenya in November and March of birds ringed in Ethiopia in October (Ash 1976).

TABLE 4

Feeding behaviour of two kingfishers Halcyon in Tsavo

	<i>H. leucocephala</i>	<i>H. chelicuti</i>
Number of items	59	46
Pounce to ground (%)	80	85
Items taken from the air (%)	8	11
Items taken with bird in flight (%)	31	41
Height of perch used to reach for prey (m) ¹	4.4 ± 0.4 (41)	4.9 ± 0.5 (31)
Distance flown (m) ¹	10.2 ± 1.8 (38)	13.4 ± 3.7 (30)
Perches on trees (%)	76	53
bushes (%)	24 n=54	40 n=45 ²
Feeding rate (items/min)	0.13 (13 items)	0.12 (24 items)

Notes: ¹Heights and distances are quoted as mean ± standard error, with sample size in parentheses

²7 per cent on electricity wires

Data show that the feeding behaviour of the two kingfishers is very similar indeed (Table 4). Both species were usually seen on horizon-

tal branches at the base of tree canopies whence they pounced to the ground for individual prey items. All prey seen taken where quite large insects.

Other kingfishers recorded: Brown-hooded *H. albiventris*, Pygmy *Ispidina picta*, and two fish-eating species.

Bee-eaters Meropidae

Considerable numbers of large bee-eaters passed high overhead between late August and October and again in April. Three species were involved, the Eurasian *Merops apiaster*, Blue-cheeked *M. persicus* and the Madagascar *M. superciliosus*, but they rarely stopped. The Madagascar Bee-eater did, however, stop at other times and occurred fairly commonly in Woodland and Riverine (rarely in other habitats) from November to late March. There is also one certain and one possible breeding record for July and August (see Lack et al. 1980).

The nominate race of *M. superciliosus* occurs in East Africa from May to September although some individuals apparently remain at parts of the coast throughout the year (Britton 1980). Where the birds which came to Tsavo in November were coming from was uncertain. I suspect that they came from Somalia following the rain belt south, as is common with other species. Although Archer & Godman (1961) say that the species is resident in Somalia, November to March is dry there and it may be only partially resident. The few Tsavo records in July and August no doubt refer to the well-known population; this population is in Madagascar and southeastern Africa from October to March and migrates north at other times. The species is seen extensively on passage in Zambia in April and September (Benson et al. 1973).

The White-throated Bee-eater *M. albicollis* is another migrant to Tsavo. It occurred from November to January and again in March and April, with very few in February. The migrations of this species are quite well-known. It breeds just south of the Sahara (exceptionally into southern Kenya) in the northern summer (Snow 1978), and then migrates to spend the non-breeding season in parts of Kenya, Tanzania and localities further to the west. In Tsavo it occurred only in the more open habitats and along the edge of Riverine.

The final two species are both small and were resident. The Little Bee-eater *M. pusillus* was commonest in Riverine, and when away from this habitat it was almost always by watercourses or other damp areas. By contrast, the Somali Bee-eater *M. revoilii* only occurred in the Park savanna habitats with woody vegetation and often in very dry areas. It is another species which has been extending its range south with the opening up of the habitat (A.D. Forbes-Watson pers. comm., Leuthold 1973).

The feeding ecology of the four species is summarized in Table 5. All species were entirely insectivorous and took the majority of their food in flight. It was noted that the insects caught were fairly big but I could not tell whether or not there was a predominance of Hymenoptera, as recorded in many places (Fry 1972).

TABLE 5

Feeding behaviour of four common bee-eaters Merops in Tsavo

	<i>M. superciliosus</i>	<i>M. albicollis</i>	<i>M. pusillus</i>	<i>M. revoilii</i>
Size (weight)	Large (43 g)	Medium (25 g)	Small (14 g)	Small (14 g)
Number of items	108	223 ³	238	80
Taken in the air (%)	100	98	96	80
Taken from the ground (%)	0	2	4	20
Height of capture (m) ¹	8.7 + 1.1/40	3.3 + 0.8/46	1.7 + 0.3/45	1.2 + 0.2/34
Height of perch used to wait for prey (m) ¹	10.8 + 0.8 ² / /46	3.7 + 0.7/ /54	1.5 + 0.3/ /62	1.1 + 0.1/ /33
Distance flown to food item (m) ¹	28.9 + 4.0/ /35	14.3 + 3.6/ /15	6.3 + 1.1/ /34	5.0 + 1.2/ /30
Feeding rate (items/min) number of items in parentheses	0.30 (28)	0.71 (19)	0.68 (81)	0.56 (34)

Notes: ¹Heights and distances are quoted as mean + standard error with the sample size after the oblique stroke (/)

²If 17 birds on electricity wires at 15m are excluded this figure becomes 8.2 + 1.0/29

³This includes records of 3, 5, 8, 10, and 12 birds all taking 'several' in the air. If these are excluded there remains n = 33 with 12% from the ground

The differences between species mainly reflect their habitat and size differences, the larger species feeding higher in the air, using higher perches to wait for prey and flying further out to feed. In particular, the Madagascar Bee-eater used the electricity wires running parallel to the Nairobi - Mombasa road as perches, and these were considerably higher than any other perch nearby.

Other species recorded: Carmine *M. nubicus*.

Rollers Coraciidae

There was only one resident species, the Lilac-breasted Roller *Coracias caudata*. It occurred in all habitats although it was much commoner in Riverine than elsewhere. The Rufous-crowned Roller *C. naevia* was much less common, is larger and had similar habitat preferences. It was, however, a migrant, occurring particularly from April to June. Brown & Brown (1973) also found an increase in this species at this time of year, and in the Lilac-breasted, along the Nairobi - Mombasa road, especially after good rains. Again the birds were of unknown origin. The final *Coracias* species is the Eurasian Roller *C. garrulus* which, when it was present, was much the commonest of the three. It occurred in all habitats, but especially the Park savanna habitats. It was rarest in Riverine where the Lilac-breasted was commonest. It arrived with the onset of the rains in November, and became steadily less common as the northern winter progressed, although during rain, and during spring migration, some large very loose flocks (up to several hundred strong) were seen passing through.

The final species, the Broad-billed Roller *Eurystomus glaucurus* is another species which occurred from November to April although it appeared in small numbers after unseasonal rain (e.g. September 1976). This suggests, perhaps, that it does not move far. It was uncommon and occurred only in Riverine and occasionally near baobab trees.

All four species were primarily insectivorous although they were seen to take small vertebrates occasionally. The Broad-billed was very different from the other three though I have few data. It was usually seen at the top of large bare trees (mean height of 13 birds seen feeding/searching was 15.1 m (+ s.e. 1.2 m). From these it took insects in the air and only occasionally from the ground. Ground feeding was the predominant feeding method of the other three species, data for which are given in Table 6. All were very similar. The only statistically significant difference between any species pair was the height of perch used by the Eurasian compared with the other two. This was due largely to the species' habitat preferences and the perch availability in these habitats. In most cases the species flew out and ate single items such as large beetles or grasshoppers. All the rollers were opportunists, however, and capitalized on, for example, an emergence of flying termites. They were also occasionally seen eating several termites on one flight to the ground.

TABLE 6

Feeding behaviour of three rollers *Coracias* in Tsavo

	<i>C. garrulus</i>	<i>C. caudata</i>	<i>C. naevia</i>
Number of feeding movements ²	113 ³	104	16
% from ground	91	79	69
% from air	8	19	25
Height of aerial capture (m) ¹	4.2 ± 1.9 /7	6.8 ± 1.8 /13	3.0 ± 2.2 /3
Height of perch used to search for prey (m) ¹	2.9 ± 0.1 /79	4.6 ± 0.3 /67	6.5 ± 1.2 /9
Distance flown to food (m) ¹	12.3 ± 1.2 /72	16.0 ± 1.6 /65	20.7 ± 4.7 /9
Feeding rate (items/min)			
number of items in parentheses	0.16 (42)	0.14 (51)	0.07 (8)

Notes: ¹ Heights and distances are quoted as mean \pm standard error with the sample size after the oblique stroke (/)

² In most cases one feeding movement is equivalent to one food item, but in a few cases the bird flew down to a termite or ant nest and ate several items before returning. These have been scored as one feeding movement in this table.

³ I also had four records of 'several' birds catching flying termites in the air. These are not included above.

Hoopoe Upupidae

The African race (*africana*) of the Hoopoe *Upupa epops* was fairly common in thicker habitats between January and July, especially in Woodland. It was very rare for the rest of the year and probably migrates south to southern Tanzania for this period (see Britton 1980).

All 97 food items recorded were insects taken from the ground. Eighty per cent were from bare ground, often as a result of digging. It eats a large number of termites as do many ground feeders but what proportion of the total diet was termite is unknown. It often worked along termite galleries.

Wood-hoopoes Phoeniculidae

There were two common residents: the Green Wood-hoopoe *Phoeniculus purpureus* occurred only in habitats with trees, particularly Riverine. The Abyssinian Scimitarbill *P. minor* is half the size and occurred in

all habitats with woody vegetation, except Riverine, but was commoner in the thicker ones.

The feeding behaviour of the two species was very similar. Both fed mainly by probing twigs, branches and sometimes fallen logs, and extracting insects from the bark. They sometimes dug extensively into the bark and pulled off pieces. There is also a major difference in that the larger Green Wood-hoopoe chose larger branches (Table 7).

Other species recorded: Violet Wood-hoopoe *P. granti* and Scimitarbill *P. cyanomelas*.

TABLE 7
Feeding sites of two wood-hoopoes Phoeniculus

	(n = 45 for both species) <i>P. purpureus</i>	<i>P. minor</i>
Twig/stem diameter 0.5 inches (1.3 cm)	-	11
Branch diameter 0.5 inches (1.3 cm)	11	23
Main trunk	24	9
Fallen log	11	2
Live wood ¹ ?size	22	20
Dead wood ?size	11	18
Other ²	20	18

Notes: a) Figures are percentages

b) Records of feeding and active searching have been included. Only one record per bird has been scored. If a bird was on more than one site while being watched, only the first site has been scored.

c) *P. purpureus* feeds from larger branches. Taking the first three sites only, the difference between the species is significant ($\chi^2 = 11$, df 2, $P < 0.01$).

¹For *P. purpureus* the 22% is made up of 11% on 'twigs' and 11% on 'branches'. For *P. minor* the 20% is made up of 7% on 'twigs' and 13% on 'branches'.

²For *P. purpureus* the 20% is made up of 7% from the ground and 13% from unknown sites. For *P. minor* the 18% is made up of 5% from the air, 4% from leaves and 9% from unknown sites.

Hornbills Bucerotidae

There were four common species, all in the genus *Tockus*. Some individuals of all four species were resident, but only the Grey Hornbill *T. nasutus* showed no seasonal pattern of occurrence. It occurred most commonly in Riverine but was also seen in other habitats, and was seen more often in very dry areas than any of the other species. The Yellow billed Hornbill *T. flavirostris* showed a slight seasonal peak of abundance in April but was present all the year. It was common in Woodland and only very few were seen outside this habitat.

The other two species, the Red-billed *T. erythrorhynchus* and Von der

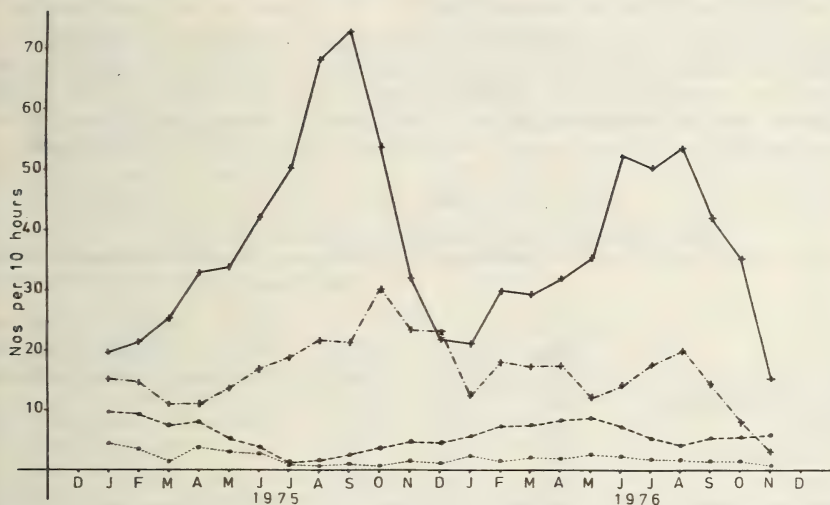


Fig. 2. The seasonal pattern of occurrence of two hornbills in Woodland and in other habitats. Solid line: Von der Decken's *Tockus deckeni* in Woodland, and in all other habitats. +. + Red-billed *T. erythrorhynchus* in Woodland, and..... in all other habitats. Three-month running means have been calculated (see text).

T. deckeni, were the commonest two. Von der Decken's was, like the Yellow-billed, very much commoner in Woodland than in any other habitat. The Red-billed was also commonest in Woodland, but was very much the commonest of the four species in all the other habitats except Grassland.

The seasonal cycles of abundance of these last two species were almost complementary, with the Red-billed being commonest in the wet seasons and Von der Decken's in the dry season. But this is an oversimplification. The data for the two species are shown in Fig. 2 over the 25 months of the study (calculated as a three-month running mean) with the birds in Woodland separate from those in all other habitats. Von der Decken's Hornbill showed a peak of abundance in Woodland coinciding with the peak of *Commiphora africana* fruit. In other habitats there was a slight peak during the wet seasons, but it was always uncommon in these. The cycles of the Red-billed parallel these very closely, but here the cycle in the Park savanna habitats and Riverine dominates that in Woodland in the total. The peak coincides with the peak insect abundance. I have no specific evidence to show whether

there was some seasonal movement from the Park savanna habitats with Riverine into Woodland in July. A subjective impression of the numbers involved suggested that there was some additional movement into and out of the Tsavo area as a whole.

All four species ate both fruit and insects (Table 8). The Red-billed was much more insectivorous than the other species and this explains its broader habitat preferences and the dominance of the 'other habitats' in its seasonal cycle. The insects taken by all four were predominantly from the ground: Red-billed 94 per cent of 175 items

TABLE 8

Food items of four hornbills Tockus in Tsavo

	No. of items	Percentage on				
		Fruit	Insect	Other plant ¹	Other animal ²	Unknown Unknown
<i>T. erythrorhynchus</i>	293	35	64	1	1	1
<i>T. deckeni</i>	226	69	29	2	-	-
<i>T. flavirostris</i>	83	63	37	-	-	-
<i>T. nasutus</i>	65	69	20	-	8	3

Notes: ¹Other plant: *T. erythrorhynchus* - 1 seed; *T. deckeni* - 1 seed, 5 flowers

²Other animal: *T. erythrorhynchus* - 1 lizard; *T. nasutus* - 3 lizards, 1 frog, 1 egg

where the site of capture was known, Von der Decken's 93 per cent of 55 items, Yellow-billed 97 per cent of 31 items and Grey 80 per cent of 10 items. The first three, at least, took a large number of termites, and the Red-billed was seen several times eating termites and beetles from dung-piles, especially those of elephant and buffalo. The fruits taken were correlated with habitat preferences. *Commiphora* spp. accounted for 66 per cent of the fruits taken by Von der Decken's, 83 per cent by Yellow-billed but only 35 per cent by Red-billed.

My few data suggest that the Grey is rather different from the other three. The insects were all single large items; I did not record it eating termites and only two individuals were seen eating *Commiphora* fruit. Kemp (1973) says it is entirely an insectivore and, further, that it feeds entirely in the trees.

Other species recorded: Crowned *T. alboterminatus*, Silvery-cheeked *Bycanistes brevis* and Ground *Bucorvus cafer*.

Barbets Capitonidae

The six common species were all resident and, with the exception of the two ground barbets *Trachyphonus* spp., were very restricted in their habitat preferences to Woodland and/or Riverine. They were all seen almost invariably in the trees rather than in bushes.

The Brown-breasted Barbet *Lybius melanopterus* was only seen in Riverine forest, and usually at fruiting trees, especially *Ficus* spp. Of 77 food items, 90 per cent were fruit. The Spotted-flanked *L. lacrymosus* was similar except for being seen occasionally in Woodland, or along small watercourses. It differed further in being half the size, and eating both insects (44 per cent of 66 items) and fruits (56 per cent). It took 66 per cent of its insects in flight.

The Black-throated Barbet *L. melanocephalus* was very similar in size and plumage to the Spotted-flanked but it was almost restricted to Woodland, not Riverine, and ate fruits almost exclusively (97 per cent of 91 items of which 78 per cent were *Commiphora*). The Red-fronted Tinkerbird *Pogoniulus pusillus*, half the size of the previous two species, occurred rarely in both Woodland and Riverine and ate predominantly fruits (87 per cent of 37 items).

The two ground barbets *Trachyphonus* are very different structurally from the other barbets. D'Arnaud's Barbet *T. darnaudii* occurred quite commonly in the thicker habitats although it was very rare in Riverine. The Red-and-Yellow *T. erythrocephalus* was more widespread still, occurring in all habitats except Grassland. In contrast to the other barbets, these two fed in the bushes or on the ground, and not in trees. The Red and Yellow was primarily an insectivore (83 per cent of 29 items); indeed the only bird seen eating fruit was one eating *Salvadora persica* in a bush which was laden at the time. All the insects were termites taken from the ground. D'Arnaud's ate both insects (55 per cent of 77 items) and fruits (45 per cent). All the insects were from the ground, and in all but one case (ants) they were termites.

Other species recorded: White-headed *Lybius leucocephalus*, Black-collared *L. torquatus*, Red-fronted *L. leucomelas* and Golden-rumped Tinkerbird *Pogoniulus bilineatus*.

Honeyguides Indicatoridae

The Black-throated Honeyguide *Indicator indicator* was rare south of the Galana River and occurred mainly in Woodland. North of the river it was slightly commoner. The Lesser Honeyguide *I. minor* was uncommon in Woodland and Riverine. It was probably resident but was noted more often in the wet seasons, probably due to its calling more then.

Other species recorded: Scaly-throated Honeyguide *I. variegatus*.

Woodpeckers Picidae

All three species recorded were fairly common residents at least in some habitats. The Nubian *Campethera nubica* was the commonest and most widespread. It occurred wherever there were trees or large dead stumps. The Cardinal *Dendropicos fuscescens* had similar habitat preferences but was much less common. The Bearded *Thripias namaquus* only occurred where there were large trees and therefore it was largely confined to Riverine.

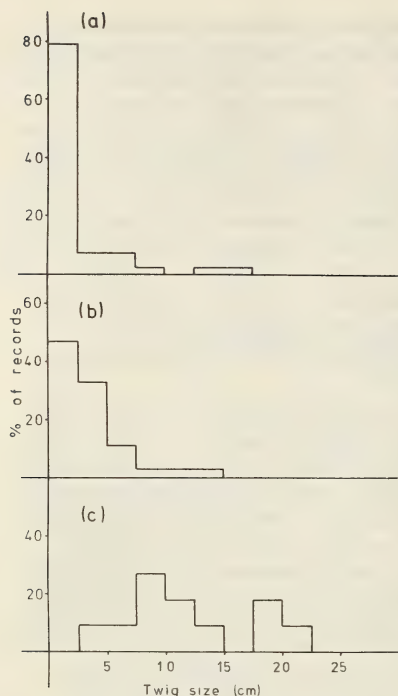


Fig. 3. The distribution of twig/branch size searched by three woodpeckers: a) Cardinal *Dendropicos fuscescens* ($n = 44$), b) Nubian *Campethera nubica* ($n = 36$), c) Bearded *Thripias namaquus* ($n = 11$)

All three species seemed to be typical woodpeckers, habitually searching twigs and branches for insects. I have very few records of birds capturing food items. The data for the size of twigs and branches on which birds were seen actively searching for food are shown in Fig 3 and show that the size of branch closely parallels the size of the bird: median diameter for the Cardinal (weight 25 g) was 1.6 cm, for the Nubian (59 g) 3.0 cm, and for the Bearded (82 g) it was 11.4 cm.

Larks Alaudidae

There were four regular *Mirafra* and two regular *Eremopterix* species. The two commonest *Mirafra* species were both resident with the Pink-breasted Lark *M. poecilosterna* one of the most widespread birds in the area. It was very common in all the Park savanna habitats but only occurred in Woodland where there were few bushes under the trees. It was not seen in Riverine. With these preferences it is probable that the species has become much commoner with the opening up of the habitat. The Red-winged Bush Lark *M. hypermetra* is much larger. It occurred primarily in Grassland although it seemed to require a few dead sticks for use as song posts. It occurred in the other

Park savanna habitats, though it was much less common there.

The status of the other two *Mirafra* species is in some doubt. This is due mainly to identification problems, especially early in my study. Both species, the Singing Bush Lark *M. cantillans* and Friedmann's Bush Lark *M. pulpa*, occurred regularly from December to February with some remaining till May. A few individuals of either or both (I could only reliably distinguish them when they were singing) were found at other times but most seemed to have moved away. The Singing Bush Lark is certainly migratory in some parts of its range (Mackworth-Praed & Grant 1957) and it and Friedmann's have come to the lights of Ngulia Safari Lodge in Tsavo West in November and December, suggesting that they both move at night (Backhurst & Pearson 1977). In December 1976 a Red-winged Bush Lark also came to the lights there at night (G.C. Backhurst pers. comm.).

The Singing Bush Lark had very similar habitat preferences to the Red-winged but was less common. Friedmann's was found most commonly in Bushed Grassland and more were seen in the western half of the Park, where there was a higher grass cover, than in the more eastern parts. Most of the unidentified individuals between May and November were in Grassland which suggests that most were probably Singing Bush Larks, not Friedmann's.

All individuals of the four species which were seen feeding were on the ground, and they seemed to take both seeds and insects. My data record Red-winged Bush Lark eating 32 items - 47 per cent insect, rest unidentified; Pink-breasted Lark 60 items - 47 per cent insect, rest unidentified; the Singing Bush Lark was seen to take a single flying insect. The stomach of one Friedmann's Bush Lark collected in Tsavo East contained both seeds and insects (Lack 1977). This last paper also contains many more details of this species, with comparative notes on the others.

The Chestnut-headed Sparrow Lark *Eremopterix signata* was found fairly commonly in the three most open habitats with a few in Bushland and Wooded Bushland. I did not record it in Woodland or Riverine. The species was not recorded before 1965 and it has evidently replaced Fischer's Sparrow Lark *E. leucopareia* which was fairly common in the early 1960s (D.A. Turner pers. comm.), presumably again due to the opening up of the habitat. The other *Eremopterix*, the Chestnut-backed *E. leucotis* was less common and restricted to Grassland and Bushed Grassland.

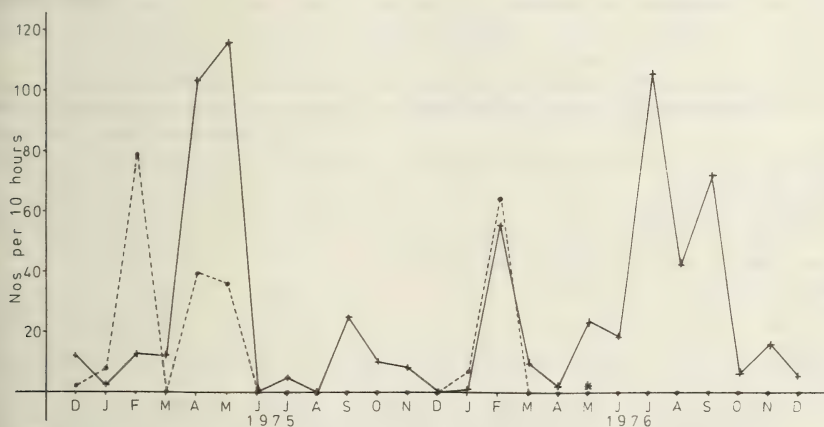


Fig. 4. The seasonal occurrence of two species of sparrow lark: solid line Chestnut-headed *Eremopterix signata*, pecked line Chestnut-backed *E. leucotis*

The Chestnut-backed Sparrow Lark occurred only in flocks and soon after rain (Fig. 4). The Chestnut-headed was also in flocks except when breeding (April) but was rather erratic in its appearances. Many were seen in April and May 1975, September and October 1975, February

1976 and May to September 1976 with relatively few at other times (see Fig. 4). The species evidently wanders a good deal, though some individuals are resident in some areas (Britton 1980). Both these birds are thought to be largely granivorous although the Chestnut-headed was seen taking insects to its young in the nest on three occasions.

Other species recorded: Flappet Lark *Mirafrja rufocinnamomea*, Fischer's Sparrow Lark *Eremopterix leucopareia*.

Drongos Dicruridae

The Drongo *Dicrurus adsimilis* was one of the most widespread birds in the Tsavo area. It was resident and common in all habitats with trees especially Woodland. It was less common in Bushland and much less in Grassland and Bushed Grassland. It was insectivorous and predominantly a flycatcher taking 71 per cent of 363 items in the air, 20 per cent from the ground and 8 per cent from leaves in bushes or trees. In all, 85 per cent of items were taken while the bird was in flight. The average height above the ground of the perches used to wait for prey was 4.6 m (s.e. = 0.5, n = 124), and the bird flew out 9.3 m (s.e. = 0.8, n = 109) to the food items. It was often seen following large mammals taking insects disturbed by them.

Orioles Oriolidae

The Black-headed Oriole *Oriolus larvatus* was a resident in Woodland and Riverine and occurred rarely in other habitats with trees. The Golden Oriole *O. oriolus* had very similar habitat preferences although was commoner in Wooded and Bushed Grassland. It is a Palae-

TABLE 9

Feeding behaviour of two orioles Oriolus in Tsavo

	<i>O. oriolus</i>	<i>O. larvatus</i>
Number of items	59	41
per centage insects ¹	25	37
per centage of insects taken off leaves	93	80
per centage of total food items taken while bird was in flight	12	24
Height of feeding (m) ²	8.8 ± 0.8	6.8 ± 1.0
	(18)	(15)

Notes: ¹All items that were not insect were fruit

²Height is given as mean + standard error with the sample size in parentheses. The difference between the two species is not significant; t = 1.56 with df 31, N.S.

arctic migrant and occurred from October to April. It was one of the few migrants to arrive before the rains (Lack 1983).

Both species were seen to eat both fruit and insects and almost entirely in trees. Table 9 gives some data on their feeding behaviour

and shows that here, as in habitat preferences, there seemed to be almost no differences between the two species. Furthermore the two are almost the same size.

Other species recorded: African Golden Oriole *O. auratus*.

Crows Corvidae

The Pied Crow *Corvus albus* was fairly common in Voi town but was only very rarely recorded inside the Park boundary. The White-necked Raven *C. albicollis* was similar but ranged a little further from the town. Neither species was important in the ecology of the Park, and both appeared to be largely dependent on man for their food, whether it was his rubbish, or carcasses of animals killed by vehicles on the main road. These carcasses were left to the two crows and the Black Kite *Milvus migrans*, which had a very similar distribution, whereas 'natural' carcasses in the Park were left almost entirely to the vultures and the Marabou *Leptoptilos crumeniferus*.

Other species recorded: Indian House Crow *Corvus splendens*.

Tits and Penduline Tits Paridae and Remizidae

The Grey Tit *Parus afer* and the Mouse-coloured Penduline Tit *Remiz musculus* were both rare residents in Woodland and other thick habitats. They were mostly seen in the northern area.

Other species recorded: White-bellied Tit *Parus albiventris*.

Babblers Timaliidae

Both the Scaly Chatterer *Turdoides aylmeri* and the Rufous Chatterer *T. rubiginos* were usually seen in noisy groups of about five, moving slowly through thick bushes within one metre of the ground. Neither was common. I have no data but both species are thought to be entirely insectivorous and feed on or near the ground.

The Scaly Chatterer was a resident in Woodland, especially the thicker parts, and was also seen, but more rarely, in Bushland and Wooded Bushland. The Rufous Chatterer was rarely seen in Riverine and very rarely elsewhere.

Cuckoo Shrikes Campephagidae

The one species, the Black Cuckoo Shrike *Campephaga flava*, was rare in Woodland, Riverine and, in the northern area only, in other thick habitats. More were seen from December to May than at other times (27, cf. 3 in censuses) indicating that it was mainly a migrant or wanderer to Tsavo. It fed mainly on insects taken from leaves (81 per cent of 21 items) and many were taken while the bird was in flight (67 per cent).

Bulbuls Pycnonotidae

Both the Zanzibar Sombre Greenbul *Andropadus importunus* and the Northern Brownbul *Phyllastrephus strepitans* were much more often heard than seen. They were both fairly common residents, but only in Woodland and Riverine. The Common Bulbul *Pynonotus barbatus*, of which the

distinctive race *dodsoni* occurs, was a resident and more widespread than the other two. It was commonest in Woodland and Riverine, but occurred regularly in all habitats except Bushed Grassland and Grassland. All three species spent much of their time inside thickets. The Zanzibar Sombre Greenbul was only seen eating fruits (19 items) and the Northern Brownbul only insects (45 items). The latter stayed very low down (mean height of feeding = 1.2 m (s.e. = 0.2 m, n = 19)) taking insects from leaves (70 per cent), stems (9 per cent), the ground (6 per cent) or the air (7 per cent). The Common Bulbul ate insects (14 per cent of 139 items), fruit (72 per cent) and flowers (14 per cent). Despite their habitat preferences the Zanzibar Sombre Greenbul and Common Bulbul were only rarely seen eating *Commiphora* fruit (25 per cent of the fruits eaten by each), and for both species much of the fruit taken was from bushes not trees.

Other species recorded: Yellow-bellied Greenbul *Chlorocichla flaviventris* and Nicator *Nicator chloris*.

Thrushes and Chats Turdidae

There were eleven regular species of which seven were Palaearctic migrants. Three of the four Afrotropical species were resident and occurred only in the thicker habitats, although none was in Riverine. The Bare-eyed Thrush *Turdus tephronotus* was fairly common in Woodland but very rare outside this habitat. The Spotted Morning Thrush *Cichladusa guttata* was very rare in censuses and only seen in Woodland. It always remained in the middle of the thicker bushes. The White-browed Scrub Robin *Cercotrichas leucophrys* was the commonest of the three. It was fairly common in Woodland, Wooded Bushland and Bushland with some in thickets in other habitats. The final Afrotropical species, the Capped Wheatear *Oenanthe pileata*, was an uncommon visitor to open habitats, mainly from March to June.

Among the seven Palaearctic migrants there are similar sized potential competitors for all these four Afrotropical species. However, only for the Capped Wheatear, for which there are three, and the White-browed Scrub Robin (one) are these migrants congeneric. The Rock Thrush *Monticola saxatilis* is of similar size to the Bare-eyed Thrush but it occurred primarily in the open habitats. It was commonest in December and January but was present from November and stayed until late March.

The Irania *Irania gutturalis* and Sprosser *Luscinia luscinia* were very similar in all respects to the Spotted Morning Thrush. Both occurred in thick bushes primarily in Woodland and both were present throughout November to April although there were fewer in January and February than the other months.

The Rufous Bush Chat *Cercotrichas galactotes* was the only one of these Palaearctic migrants to meet a fairly common resident congener, the White-browed Scrub Robin. The habitat preferences of the two overlapped considerably, but the Rufous Bush Chat was more widespread in the open habitats. It was common all through the northern winter from November to March.

The three Palaearctic *Oenanthe* species are unlikely to compete seriously with the Capped Wheatear as this was relatively very much scarcer. However, it is possible that the Palaearctic species delay the arrival of the Capped as it arrived in Tsavo mainly after the Palaearctic ones had left. The three Palaearctic wheatears, although superficially very similar, had rather different habitat preferences from each other. The Pied *O. pleschanka* was commonest in Wooded and Bushed Grassland and Wooded Bushland, the Northern *O. oenanthe* mainly in Bushed Grassland, Wooded and Bushed Woodland and Bushland, and the Isabelline *O. isabellina* was much commoner in Grassland and Bushed Grassland than in other habitats. The Isabelline and Pied occurred commonly from November to March but the Northern arrived earlier. It was one of the few migrants to appear before the rains with a few seen at the end of September. It also largely disappeared by the end of February which was four to six weeks earlier than most other Palaearctic migrants (see Lack 1983).

All the thrushes and chats fed to a large extent from the ground. Most ate many termites. I have no data for the Bare-eyed Thrush or Spotted Morning Thrush and very few for the Capped Wheatear, Irania or Sprosser. As suggested above, the Spotted Morning Thrush, Irania and Sprosser probably fed from inside the thick bushes and not in the open. The White-browed Scrub Robin took 98 per cent of 46 recorded items from the ground and the Rufous Bush Chat 92 per cent of 165 items. Subjectively, the scrub robin took food mainly from the litter near bushes and the Rufous Bush Chat from bare ground, and it was also prepared to venture further from bushes. This difference is probably related to the species' habitat preferences.

The Rock Thrush fed while running along the ground (ground gleaning) and by pouncing to the ground from elevated perches like the rollers *Coracias* spp. Unlike the rollers though, it usually ate several items often running a few metres between each, before returning to its perch. Of the 116 items recorded 96 per cent were taken from the ground, 27 pounces to the ground were noted, on 13 of which the bird took several items before returning.

Data on the feeding behaviour of the three Palaearctic wheatears are given in Table 10. The Northern and Isabelline took their food almost exclusively from the ground whereas the Pied took a third from the air. The major difference between the first two can be seen in the last line of the table, and concerns the method of catching prey. The Isabelline spent most of its feeding time actually on the ground running about, whereas the Northern (and Pied) spent a considerable time sitting on elevated perches waiting for prey to become visible. This feeding method may be related to the size of prey taken. Those waiting for prey from an elevated perch should tend to move out only for the larger prey items. The Capped Wheatear seemed to be an 'average' wheatear with 5 of 10 items taken from the ground and 5 from the air.

These data on the feeding behaviour of wheatears agree in many respects with those of Cornwallis (1975) working in Iran. He also found

TABLE 10

Feeding behaviour of three wheatears Oenanthe in Tsavo

	<i>O. pleschanka</i>	<i>O. oenanthe</i>	<i>O. isabellina</i>
Number of items	100	201	268
Percentage on herbage/ground	64	97	94
Percentage in air	30	2	4
Percentage in bushes	6	1	1
Number of items on ground/herbage			
herbage	64	194	253
Number of movements to the			
ground from perch ¹	38 (59 per	72 (37%)	21 (8%)
	cent of ground		
	feeds)		

Notes: No feeding records of *O. oenanthe* and *O. isabellina* before 1 July 1975 are included

¹ see text

the difference between the Northern and Isabelline noted above but in Iran all 37 items seen taken by the Pied Wheatear were from the ground and none were from the air.

Other species recorded: Red-tailed Chat *Cercomela familiaris*, Eastern Bearded Scrub Robin *Cercotrichas quadrivirgata*, White-browed Robin Chat *Cossypha heuglini*, Nightingale *Luscinia megarhynchos*, Red-tailed Ant Thrush *Neocossyphus rufus*, Whinchat *Saxicola rubetra* and Cliff Chat *Thamnolaea cinnamomeiventris*.

Warblers Sylviidae

A total of 30 species and one probable have been recorded in Tsavo East (Lack et al. 1980), but only ten (six breeding in the Palaearctic and four in the Afrotropics) can be considered common. A further seven (three Palaearctic and four Afrotropical) were regular in some habitats at certain times.

The four common Afrotropical species were all rather different from each other. The Grey Wren Warbler *Cameroptera simplex* was a resident in Bushland, Wooded Bushland and Woodland with only very few (10 per cent of 106 birds in censuses) in other habitats. It fed on insects on or near the ground in thick bushes, like a variety of other African species, notably the bush shrikes Malacotidae (q.v.), it is, however, considerably smaller than any of these. See Table 11 and below.

The Northern Crombec *Sylvietta brachyura* was a common resident in Woodland and Wooded Bushland. It was rarer in other habitats but was not seen in Grassland or, inexplicably, Riverine. It looked, fed and behaved very like a nuthatch *Sitta* sp. It walked and ran along branches and twigs, usually horizontal ones, taking insects from the bark (78 per cent of 80 recorded items).

The Ashy Cisticola *Cisticola cinereola* was present all the year in open habitats, especially Grassland and Bushed Grassland. It was seen usually in thick grass but I have no data to show that it fed there. The Tiny Cisticola *C. nana* occurred rarely in the more open parts of Woodland and in a few isolated areas of the Park savanna habitats where there were large trees with open ground underneath. It was present all the year. It fed almost entirely from the ground where there was some grass with bare patches in between (62 per cent of 21 items from grass, 24 per cent from bare ground).

Four more Afrotropical species were regular though rare. These are the Desert Cisticola *C. aridula* - in Grassland and most obvious in the wet seasons, but may be resident; the Red-fronted Warbler *Spiloptila rufifrons*, in Bushland; Yellow-vented Eremomela *Eremomela flavicrissalis*, in the more open parts of Woodland and the Yellow-breasted Apalis *Apalis flava*, mainly in Woodland and seen only between May and October (see below).

The timing of the movements of the Palaearctic warblers and some of their ecology are described by Lack (1983). For the first winter of the study (1974-75) I had great difficulty distinguishing the two common *Hippolais* species and some individuals in the 1975-76 winter were similarly not positively identified. In all only about half the *Hippolais* individuals were identified and the data given here refer only to those birds. Of the two species, Upcher's Warbler *Hippolais languida* is slightly larger. It occurred sparsely in all habitats except Grassland and Riverine. The Olivaceous Warbler *H. pallida* was common in Woodland and especially Riverine but was very rare in other habitats. Upcher's also arrived and reached peak numbers about a month after the Olivaceous (median test on 1975-76, $\chi^2 = 6.0$, df 1, $P < 0.05$) though both species left about the same time. Both were unusual in being at peak numbers during the dry season (February to March) - see below and Lack (1983).

The two *Sylvia* species parallel the two *Hippolais* in some respects. The Barred Warbler *S. nisoria* is the larger, was more widespread over the habitats, and arrived and showed peak numbers about a month after the Whitethroat *S. communis* (median test $\chi^2 = 13$, df 1, $P < 0.001$). The Whitethroat had a preference for habitats with trees, though not Riverine, and the Barred was equally common in all habitats except Bushed Grassland and Grassland, but including Riverine.

The final two are the Marsh Warbler *Acrocephalus palustris* and the Willow Warbler *Phylloscopus trochilus*. Both were commonest in habitats with trees but the Willow Warbler was much rarer in Riverine. The Marsh Warbler may be largely a passage migrant, being grounded only by adverse weather conditions. It occurred in December and January, with a few in April. The Willow Warbler was as common in spring (April) as in autumn (December) and there was also a small passage in October.

Data on the feeding behaviour of these six species and two of the Afrotropical ones are given in Table 11. The table shows that all fed

TABLE 11
Feeding behaviour of six Palaearctic and two Afrotropical warblers in Tsavo

	Species (key below):						
	Hp	Hl	Sc	Sn	Ap	Pt	Af
Number of items	153	73	148 ^c	72 ^c	180	316	63
Per cent from leaves	86	60	85	96	91	81	33
Per cent from air	1	3	1	0	4	9	3
Per cent from ground	0	0	0	0	3	0	13
Per cent from twigs/stem	9	37	13	4	1	3	5 ^d
Per cent with bird in flight	21	11	1	0	17	26	6
Per cent inside tree/bush (n)	57	54	80	85	50	38	91
	(42)	(24)	(40)	(20)	(38)	(69)	(11)
Per cent inside edge	38	29	10	10	41	36	9
Per cent at edge	5	17	10	5	9	26	0
Mean height of feeding (m)	5.7 ^a	3.2 ^a	1.7 ^b	3.8 ^b	5.0	5.2	0.6
standard error	0.5	0.5	0.3	0.8	0.7	0.3	0.2
(n)	44	27	44	21	43	81	19
							13

Key to abbreviations of species names: Hp = *Hippolais pallida*; Hl = *H. languida*; Sc = *Sylvia communis*; Sn = *S. nisoria*; Ap = *Acrocephalus palustris*; Pt = *Phylloscopus trochilus*; Cs = *Camaroptera simplex*; Af = *Apalis flavida*

Notes:

- The difference in feeding height between *Hippolais pallida* and *H. languida* is highly significant: $d = 3.7$, $df\ 66$, $p < 0.001$
- The difference in feeding height between *Sylvia communis* and *S. nisoria* is highly significant: $d = 2.6$, $df\ 56$, $p < 0.02$
- In addition, seven birds of both species seen eating fruit
- All following items down from a bush

predominantly from leaves, though the Upcher's took much from twigs and the Willow Warbler some from the air, but there were very few leaves in the bushes when the Upcher's Warbler was commonest, in March. Among the six Palaearctic species, three fed mainly in the trees, one mainly in the bushes and two in both. Interestingly, the one bush feeder, the Whitethroat, had a preference for those habitats with trees. Among the tree feeders the Willow Warbler stands out: it was found at the edge of the canopy and not inside it. The Marsh Warbler is an interesting species because, in most areas where it has been studied, it occurs in grass and thickets, e.g. in Europe where it breeds (Voous 1960), and in Zambia (Benson et al. 1973). Thickets are present but reeds and rank grass are rare in Tsavo.

With six common Palaearctic species present at some periods it is pertinent to ask if any come into potential competition with Afrotropical species. The fact that only four Afrotropical species were fairly common may itself be indicative. As noted above, three of the four were obviously different from all the Palaearctic species, the Northern Crombec and Tiny Cisticola by their feeding methods (bark and ground respectively), and the Ashy Cisticola by its habitat preferences (many in Grassland and Bushed Grassland) and presumed feeding site (grass). Data on the fourth common Afrotropical species, the Grey Wren Warbler, and the Yellow-breasted Apalis are also given in Table 11. As can be seen, the only Palaearctic species which was similar to the Grey Wren Warbler was the Whitethroat, but most of the Grey Wren Warbler's food came from twigs or the herbage and ground, and not from the leaves. The Grey Wren Warbler also fed lower down ($d = 3.5$, $df = 62$ $P < 0.001$).

There was some evidence for the Palaearctic species excluding the Yellow-breasted Apalis. The latter's feeding behaviour appeared very similar to an 'average' Palaearctic warbler, and it was most similar to the two *Sylvia* species. However, as noted above, it was only seen between May and October (ten separate occasions, not all in censuses).

The other three regular though rare Palaearctic species were the Sedge Warbler *Acrocephalus schoenobaenus* which occurred mainly in the spring in reedy margins or bushes near water, the Basra Reed Warbler *A. griseldis* which occurred in both spring (April) and autumn (December) especially in the Voi River vegetation and thickets in Woodland, and the Garden Warbler *Sylvia borin* which occurred in thick bushes in December and January.

It seems that, as a family, the warblers have been more subject to changes in status and occurrence over the last twenty years than most other families of birds, and it appears that these changes have been largely due to the habitat changes noted at the beginning of this paper. The Yellow-breasted Apalis, Red-fronted Warbler, Buff-bellied Warbler *Phylloscopus pulchella*, Somali Long-billed Crombec *Sylvietta isabellina* and Banded Parisoma *Parisoma boehmi*, all formerly occurred quite widely, particularly in *Acacia* trees around 1959-60 (A.D. Forbes-Watson pers. comm.) but are rare or nearly absent now.

Other species recorded: Afrotropical: Lesser Swamp Warbler *Acrocephalus gracilirostris*, Moustached Warbler *Sphenoeacus mentalis*, Rattling Cisticola *Cisticola chiniana*, Winding Cisticola *C. galactotes*, Tawny-flanked Prinia *Prinia subflava*, Pale Prinia *P. somalica*, Grey-backed Camaroptera *Camaroptera brachyura*; Palaearctic migrants: River Warbler *Locustella fluviatilis*, Reed Warbler *Acrocephalus scirpaceus*, Great Reed Warbler *A. arundinaceus* and Olive-tree Warbler *Hippolais olivetorum*.

Flycatchers Muscicapidae

Two Muscicapinae, three Platysteirinae and one Monarchinae were regular in Tsavo. Of the Muscicapinae the Grey Flycatcher *Bradornis microrhynchus* was an uncommon resident in the thicker habitats, especially in Woodland. It was not seen in Riverine. The Spotted Flycatcher from the Palaearctic was common in Tsavo from November to the end of March in all habitats with trees (98 per cent of 500 seen in censuses), especially Riverine. The Grey Flycatcher fed mainly by pouncing to the ground and the Spotted mainly took insect in the air, usually close to vegetation (Table 12).

TABLE 12

Feeding behaviour of two Muscicapine flycatchers in Tsavo

	<i>Muscicapa striata</i>	<i>Bradornis microrhynchus</i>
Number of items	373	73
Per cent in air	74	15
Per cent off twigs	4	7
Per cent off leaves	9	7
Per cent off ground	11	71
Per cent with bird in flight	89	25
Per cent taken by pouncing	6	69

All three Platysteirinae are in the genus *Batis* and all were probably resident although none was common. The Black-headed *Batis minor* was almost restricted to Riverine. It was occasionally seen in Woodland and along smaller watercourses. The Chin-spot *Batis B. molitor* was confined to Woodland and the Pygmy *Batis B. perkeo* occurred rarely in all habitats with trees, except Riverine. All three fed in a similar fashion, usually making short flights within a tree to take insects from the vegetation (Table 13). Because of their habitat preferences though, only the Chin-spot and Pygmy met, and only in Woodland.

The only Monarchinid, the Paradise Flycatcher *Terpsiphone viridis*, was an uncommon visitor to Woodland and Riverine from November to May, although there were fewer in January and February. Its feeding methods were a combination of those of the Spotted Flycatcher and the *Batis* species (50 per cent of 16 items from the air, 37 per cent from the vegetation, 13 per cent from the ground). It appeared to remain

well inside the vegetation.

TABLE 13

Feeding behaviour of three flycatchers Batis in Tsavo

Number of items	<i>B. minor</i>	<i>B. molitor</i>	<i>B. perkeo</i>
Number of items	45	49	49
Per cent in air	24	14	14
Per cent off leaves	53	69 ^a	55
Per cent off twig/stem	18	14	31
Per cent with bird in flight	91	100	100
Per cent inside the vegetation	29	81	50
(n)	(17)	(16)	(14)
Per cent just inside	53	13	21
Per cent at edge	18	6	29
Height of feeding (m)	9.8	4.8	3.4
standard error	0.9	0.5	0.6
(n)	(20)	(20)	(15)

Note:

- a) 62 per cent of these were recorded as from the underside, 3 per cent from the upper surface and 35 per cent unspecified

Other species recorded: Ashy Flycatcher *Muscicapa caerulea*, Lead-coloured Flycatcher *Myioparus plumbeus*, Southern Black Flycatcher *Melaenornis pammelaina*, Pale Flycatcher *Bradornis pallidus*.

Pipits and wagtails Motacillidae

Two wagtails were fairly common locally but not in areas which were censused. The African Pied Wagtail *Motacilla aquimp* was a resident in the open areas beside rivers, but not in Riverine as defined here, and around buildings. The Palaearctic Yellow Wagtail *M. flava*, of one or more subspecies, occurred between November and April in short grass ('lawn') areas especially in the compound of Aruba Lodge. Both wagtails were seen feeding on insects captured on or near the ground.

Of the *Anthus* pipits Richard's *A. novaeseelandiae* was the most often seen, but it was only a sporadic visitor between November and April. The Pangani Longclaw *Macronyx aurantiigula* was fairly common all the year but was more often seen in the wet seasons. It was always in areas with a high grass cover, especially Grassland. The Golden Pipit *Tmetothylacus tenellus* was common in all the Park savanna habitats and rarely occurred elsewhere. A few could be seen at any time of year but numbers increased enormously with the onset of the rains in November. At the start of the wet season this species in particular could be very localized to areas which had had rain. The Pangani Longclaw was usually seen in thick grass although both the insects I saw taken were in the air about 1m up. The Golden Pipit was a ground feeder but was more catholic in its choice of substrate than the long-claw, feeding off the herbage and at times even from bare ground.

Other species recorded: Grey Wagtail *Motacilla cinerea*, Plain-backed Pipit *Anthus leucophrys*, Tree Pipit *A. trivialis*, Red-throated Pipit *A. cervinus*.

Bush Shrikes Malaconotidae

There were ten regular species though very few were common. There was a pair of species in each of four genera, all of which were superficially similar in ecology, and two other species which were rather separate. All those for which I have data were entirely insectivorous except for the occasional instance of birds eating fruits, but they only did this when the fruits were abundant.

The Black-backed Puffback *Dryoscopus cubla* was resident, but more often seen in the wet seasons. It occurred only in Riverine, especially the thicker parts. It spent its time mainly in trees (mean height of feeding 7.4m, standard error 1.3, $n = 7$) in contrast to the other *Dryoscopus*, Pringle's Puffback *D. pringlii*, which fed in the bushes (height of feeding 2.2m, standard error 0.4, $n = 8$). This species too had different habitat preferences; it was a rare bird in Woodland and was commoner in the northern area.

The Black-headed Tchagra *Tchagra senegala* was an uncommon resident in the thickest parts of Woodland. It appeared to remain almost exclusively within thickets. The Three-streaked Tchagra *T. jamesi* was a regular resident in Bushland, Wooded Bushland and Woodland and sometimes elsewhere in thick bushes. It was always low down and often in thickets - mean height of feeding 0.3m, standard error 0.1, $n = 8$.

The Tropical Boubou *Laniarius ferrugineus* was only recorded during and soon after the wet seasons in the Voi River Forest. The Slate-coloured Boubou *L. funebris* was a common resident in Woodland and in thick bushes along watercourses but not in the Voi River Forest. It was usually seen low down in thickets and was also seen eating *Commiphora* fruits at times.

Both *Malaconotus* species were rare though both are very elusive. Both were more often heard than seen. Unlike the other pairs these two are very different in size. The Sulphur-breasted Bush Shrike *M. sulfureopectus* was recorded in Woodland and only very occasionally outside. The Grey-headed Bush Shrike *M. blanchoti* was resident in both Woodland and Riverine. Both species were usually seen in trees (mean height of feeding for the Grey-headed 5.7m, standard error 1.4, $n = 8$; no feeding data for the Sulphur-breasted).

Finally two species which are very different from all the others in the family: the Brubru *Nilaus afer* was an uncommon resident in habitats with trees, except for Riverine. It fed by taking insects, mostly from leaves (30 per cent of 33 items) or twigs (42 per cent) mostly while perched (79 per cent). It was usually in trees (mean height 6.5m, standard error 0.6, $n = 20$). The Rosy-patched Shrike *Rhodophoneus cruentus* was a resident, primarily, but not exclusively in areas with bushes but no trees. It fed mainly while running along the ground picking insects from bare ground or grass (92 per cent of 50 items). It was usually seen within 5m of bushes and where there was some grass and not in large areas of bare ground.

Other species recorded: Brown-headed Tchagra *Tchagra australis*, Red-

naped Bush Shrike *Laniarius ruficeps*, Four-coloured Bush Shrike *Malacotus quadricolor*.

Shrikes Laniidae

Five fairly common species occurred, all in the genus *Lanius*. A sixth species, the White-crowned Shrike *Eurocephalus rueppelli*, a member of the Prionopidae, is also included here as it is much more similar in ecology to the *Lanius* species than the other two helmet shrikes (q.v.)

Three of the group are Palaearctic migrants: the Lesser Grey Shrike *Lanius minor* only occurred on spring passage in April in all habitats except Riverine. The Red-backed Shrike *L. collurio* occurred predominantly in April although it was also present in small numbers in December and January (Fig.5). It occurred in all habitats though it was very rare in Grassland. The Red-tailed Shrike *L. isabellinus* was

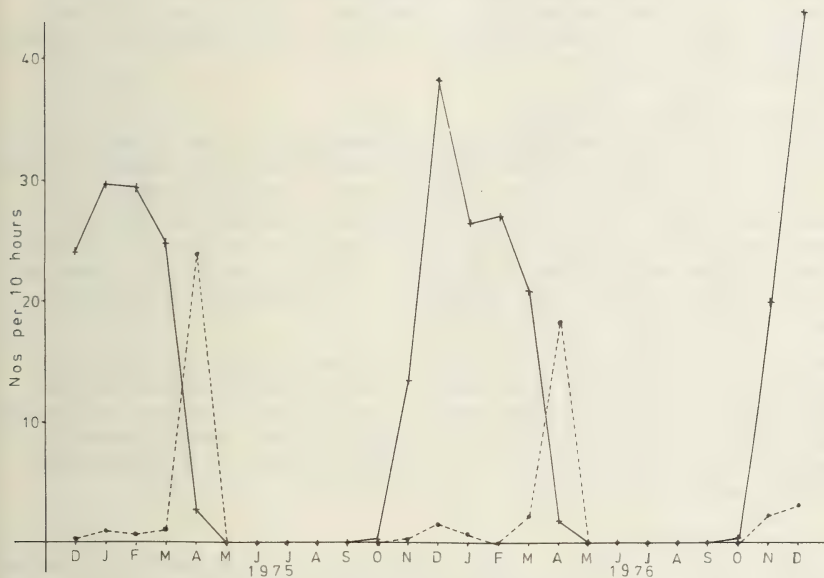


Fig. 5. The seasonal occurrence of two species of shrike in Tsavo: solid line Red-tailed Shrike *Lanius isabellinus*, pecked line Red-backed Shrike *L. collurio*

common in all habitats. It occurred from the onset of the rains in November till the end of March when it disappeared rather abruptly (Fig. 5). This departure coincided with the arrival of the Red-backed (a form which has been considered conspecific with the Red-tailed). It is not simply a question of replacement though, as the two species differ slightly in both their habitat preferences (Red-tailed much commoner in the open habitats) and feeding ecology (see below).

The two Afrotropical *Lanius* species also had different habitat preferences from each other. The Taita Fiscal *Lanius dorsalis* was a common resident in all the Park savanna habitats, especially the open ones. The Long-tailed Fiscal *L. cabanisi* was much rarer. It was apparently in similar habitats but was always in the lush areas near to watercourses or other damp parts and not on the open dry plains. It too was resident and was usually seen in small groups rather than as singles or pairs. The White-crowned Shrike was a common resident in the thicker habitats, especially Wooded Bushland and Woodland.

All six species fed mainly by pouncing to the ground from a prominent perch. Data on their feeding behaviour are given in Table 14. All were very similar. In general, the two smallest, the Red-backed and the Red-tailed, perched on lower bushes and flew out less far than the others, and the largest, the Long-tailed Fiscal, did not flycatch. The White-crowned Shrike took a higher proportion of its food in the air than any of the others except the Lesser Grey and Red-backed. But these two were only commonly present in April, the second wet season, when flying insects were more common.

Helmet Shrikes Prionopidae

Three species occurred but the White-crowned Shrike has already been discussed above. The two other species were common residents, though very restricted in their habitat preferences. Retz's Helmet Shrike *Prionops retzii* was seen only in Riverine and the Helmet Shrike *P. plumata* largely in Woodland with a very few in other habitats. Both species, and the White-crowned Shrike, usually occurred in groups of five or six and all have been shown to be co-operative breeders (see review in Grimes 1976).

Feeding data for the two *Prionops* are given in Table 15 (p. 82). Both species were usually seen moving slowly through the vegetation at the base of the tree canopy taking insects, particularly off twigs and branches. The difference between the species' feeding height is due mainly to the difference in tree canopy height in the preferred habitat of each species.

Starlings Sturnidae

A total of twelve species has been recorded and, although six were uncommon none was rare. The Red-winged Starling *Onychognathus morio* occurred in the Park on rocky hills. However, numbers in censuses were mainly during an influx into Woodland in August and September 1975, apparently in response to the abundance of *Commiphora* fruit at that time. Rüppell's Long-tailed Glossy Starling *Lamprolornis purpuropterus* was fairly common along the Tiva River and in some other parts of the northern area. It was very rare south of the Galana River. The Violet-backed Starling *Cinnyricinclus leucogaster* was a rare visitor, mainly to Woodland between late March and September. The Magpie Starling *Speculipastor bicolor* was a sporadic visitor in flocks to thicker habitats; I saw them mostly in the northern area but there was an influx into the southern area in November and December 1976. Hildebrandt's Starling *Spreo hildebrandti* was a sporadic visitor singly to

TABLE 14

Feeding behaviour of six shrikes: *Eurocephalus rueppelli* and five *Lanius* spp. in Tsavo

Species (key below):	<i>E. rue</i>	<i>L. cab</i>	<i>L. dor</i>	<i>L. min</i>	<i>L. col</i>	<i>L. isa</i>
Number of items	213 ^a	81 ^a	135 ^b	41	74 ^a	175 ^a
Per cent from ground (and herbage)	80	90	83	80	81	73
Per cent from air	15	0	8	17	14	9
Per cent from leaves in bushes	1	9	5	2	3	11
Height of aerial feed (m)	7.6	-	4.9	4.7	3.4	9.8
standard error	1.9		1.4	1.4	1.2	1.4
(n)	(17)		(11)	(7)	(9)	(16)
Height of perch used to search for prey (m)	3.6	2.3	2.6	2.7	1.5	2.1
standard error	0.3	0.2	0.1	0.4	0.1	0.2
(n)	(73)	(44)	(88)	(20)	(33)	(112)
Distance flown to food (m)	9.6	10.8	14.2	12.7	4.7	8.0
standard error	1.0	1.3	1.3	4.5	0.7	0.6
(n)	(68)	(44)	(81)	(19)	(30)	(105)
Feeding rate (items/min)	0.31	0.23	0.17	0.27	0.41	0.25
number of items	49	63	85	31	37	56

Key to abbreviations of species names: *E. rue* = *Eurocephalus rueppelli*; *L. cab* = *Lanius cabanisi*;*L. dor* = *L. dorsalis*; *L. min* = *L. minor*; *L. col* = *L. collurio*; *L. isa* = *L. isabellinus*

Notes: a) The following records have not been included in the table: *E. rueppelli* - 2 records of 'several feeding on the ground'; 1 of 'several feeding in the air', 1 of 'several taking many in the air and several on the ground'. *L. cabanisi* - 4 records (1 bird each time) eating *Salvadora persica* fruits. *L. minor* - 1 record of 'many flycatching'. *L. collurio* 1 record of 'many flycatching'. *L. isabellinus* - 1 record of one bird eating unidentified fruits.

b) Of the records of *L. dorsalis* 2 are lizards and 1 is a small snake but these are included in the table.

TABLE 15

Feeding behaviour of two helmet shrikes *Prionops* in Tsavo

	<i>P. plumata</i>	<i>P. retzii</i>
Number of items	76 ^a	46
	1 fruit, rest insect	all insect
Per cent from air	16	13
Per cent off twigs/stem	41	26
Per cent off branches/trunk	9	37
Per cent off leaves	9	15
Per cent off ground	19	9
Per cent from other sources	6	0
Per cent when perched	32	33
Per cent when hovering	11	30
Per cent in flight ^b	49	35
Per cent pounce to ground	5	2
Per cent unknown	3	0
Height of feeding (m), \pm standard error, (n)	3.0, 0.4 (56)	5.0, 0.8 (29)

Notes:

- a) I have scored as one item (rather than five) each of three birds which pounced to the ground and then ate several termites, as in each case only one movement was involved.
- b) These are where the bird snatched an insect in passing without a significant pause.

any area. Shelley's Starling *Spreo shelleyi* was fairly common in parts of the northern area but much less so in the southern, although in all areas it often occurred in flocks of up to fifty. Of these six species the Violet-backed and Magpie Starlings appeared to be more frugivorous than the others and the two *Spreo* species and Rüppell's Long-tailed more insectivorous, but all probably eat both.

From an ecological point of view the six commoner species can be divided into three singles and a group of three.

The Blue-eared Glossy Starling *Lamprolornis chalybaeus* was a resident restricted to Riverine. I saw it feeding on insects on the ground (67 per cent of 21 items) and fruits of *Salvadora persica*. The Wattled Starling *Creatophora cinerea* was a wet season visitor. It was one of the few species which showed an equally well-marked peak of abundance in April as in December with a drop in numbers in between. When it was present it was a fairly common bird, and often in large flocks (100+). It was usually seen in habitats with trees although it was less common in Woodland than the others. Like other starlings it was seen eating insects on the ground (61 per cent of 167 items recorded) and fruit (39 per cent).

The final sturnid, the Red-billed Oxpecker *Buphagus erythrorhynchus*

was very different from all the other birds in the Park. It was fairly common as a resident in all the habitats inside the Park but was less common in the Woodland I worked in outside. It fed almost exclusively on ectoparasites on the hides of large mammals and seemed especially to favour rhino, buffalo and giraffe although I saw it also on many antelopes and warthog. The reason for it being less common in Woodland was probably that the animals that occur there, domestic cattle, sheep and goats, are now regularly dipped and have many fewer parasites. In Tsavo East the Red-billed is the only oxpecker; in many other areas the Yellow-billed *B. africanus* also occurs, and where the two coexist they appear to divide the resources between them with the Yellow-billed feeding mainly on buffalo and the Red-billed on other species (Buskirk 1975).

The group of three referred to above comprises two *Spreo* species, the Superb *S. superbus* and Fischer's *S. fischeri*, and the Golden-breasted *Cosmopsarus regius*. The Superb and the Golden-breasted were usually seen in groups of six to ten but Fischer's was more common in flocks of up to forty. The two *Spreo* species were both commonest in the Park savanna habitats with trees, but the Superb was commoner than Fischer's in those without, and Fischer's was commoner in Woodland. Despite this the Superb was much commoner than Fischer's in the northern area. In Woodland and Riverine the Golden-breasted was much commoner than either of the others.

All three were resident in good numbers, but all showed seasonal peaks between June and August. All are conspicuous birds so the peaks are unlikely to be artificial. It is surprising though that numbers were lowest in the wet season during peak insect abundance. It is possible that the birds lived in smaller groups then and were more spread out.

All three species fed mainly on the ground, usually in bare patches and were predominantly insectivorous: for the Golden-breasted 76 per cent of 394 items were insect (97 per cent of these from the ground), for the Superb 87 per cent of 597 items were insect (all from the ground) and for Fischer's 99 per cent of 292 items (all from the ground). They all ate large numbers of termites. I also recorded all species eating fruits - Fischer's only once, Superb 10 per cent of items (eight birds) the remaining 3 per cent of items were *Acacia* flowers, and the Golden-breasted 24 per cent of items (18 birds). This last is related to habitat preferences as six of the 18 birds were eating *Commiphora* (i.e. in Woodland) and another four were on *Dobera* (i.e. in Riverine).

Sunbirds Nectariniidae

All five regular species were resident. The Collard Sunbird *Anthreptes collaris* occurred rarely in Riverine and in gardens around Park Headquarters. The Eastern Violet-backed *A. orientalis* occurred mainly in Woodland but also in other thick habitats. It was not seen in the Voi River Forest, where Collared occurred, but was seen several times in the fringe of *Acacia* trees (mainly *A. elatior*) along the Tiva River

TABLE 16
Feeding behaviour of five sunbirds in Tsavo

Species (key below):	Ao	Ac	Nb	Na	Nh
Bill (key below)	ss	ss	sc	lc	lc
Number of items	94	38	178	81	422 ^a
Nectar: Per cent of total	54	13	82	63	77
Per cent from <i>Delonix elata</i>	0	0	10	41	35
Per cent from other trees	51	100	52	20	37
Per cent from bushes	49	0	38	39	28
Insect: Per cent of total	46	87	18	37	21
Per cent off leaves	88	67	31	67	43
Per cent off twigs	0	15	0	33	36
Per cent taken in air	12	15	69	0	21
Per cent taken by bird in flight	14	52	69	33	34

Key to abbreviations of species names: Ao = *Anthreptes orientalis*;
Ac = *A. collaris*; Nb = *Nectarinia bifasciata*; Na = *N. amethystina*;
Nh = *N. hunteri*.

Key to bill type: ss = short straight; sc = short curved; lc = long curved.

Note: a) includes ten feeds on *Commiphora* fruit.

where I did not record the Collared. The Amethyst *Nectarinia amethystina* was very similar in preferences to the Collared, being in Riverine and gardens. The Little Purple-banded *N. bifasciata* was nearly confined to Woodland but, in the northern area, it occurred in other thick habitats. The final species, Hunter's *N. hunteri*, was much the commonest and most widespread species, occurring in all habitats except Grassland though it was commonest in Woodland.

All five species were seen eating both insects and nectar. Data are given in Table 16 but the absolute figures for the proportions of insect and nectar feeding must be treated with caution. Nectar feeding is likely to be much more conspicuous than insect feeding, though the relative amounts between species in the proportion of nectar to insect should not be affected. Except that they ate nectar, the two *Anthreptes* species and the Amethyst, are shown to be very like the warblers, although they all took more food in flight than the warblers. For the two long-billed *Nectarinia* species, the Amethyst and Hunter's, the large flowers of *Delonix elata* appeared to be very important, and the short-billed Little Purple-banded fed mainly on smaller flowers.

In former times the ecological situation was evidently much more complicated. In addition to the above five species, the Olive Sunbird *N. olivacea*, Variable *N. venusta*, Mariqua *N. mariguensis*, Beautiful *N. pulchella* and Smaller Black-bellied *N. nectarinioides* were all present in varying numbers and most of them were in Woodland and/or

the Voi River Forest. I saw a few Smaller Black-bellied each year, there is one recent record of Variable, and there have been no records of the others for several years.

Other species: one probable record of the Bronze *N. kilimensis*.

White-eyes Zosteropidae

The one species, the Abyssinian White-eye *Zosterops abyssinica*, occurred rarely in any area with large trees. It was usually seen in small groups but otherwise behaved like a warbler.

Weavers, sparrows Ploceidae

Both members of the Bubalornithinae were common and widespread. Both occurred commonly throughout the year but showed some seasonal patterns of occurrence. Their habitat preferences overlapped extensively. The Red-billed Buffalo Weaver *Bubalornis niger* was commonest in the wet seasons and occurred more in flocks then. It was common in all habitats except Grassland. The White-headed Buffalo Weaver *Dinemellia dinemelli* was commonest from June to August and occurred in all habitats although it was rare in Grassland and Riverine. Both species fed primarily on the ground and were seen to take both seeds and insects but the proportion of each was unknown. Both species ate some fruit but the White-headed was not seen to eat any *Commiphora* so the seasonal pattern of abundance of this fruit seems not to affect this bird's numbers. Indeed, there is no very obvious cause for its seasonal occurrence.

Two sparrows Passerinae were very common residents. The Parrot-billed Sparrow *Passer griseus gongonensis* was commonest in Riverine. It also occurred in all other habitats but was very rare in Grassland and Woodland. The Yellow-spotted Petronia *Petronia pyrgita* was regular in all habitats. The Parrot-billed Sparrow fed on the ground and probably ate both seeds and insects. The petronia had a very varied diet: of 158 items recorded, 27 per cent were fruits in both trees and bushes, 27 per cent were certainly insects (three-quarters in woody vegetation with mean height 4.7m, standard error 1.1, $n = 15$ birds), 2 per cent in the air, 12 per cent from the ground, and 32 per cent were items from the ground where it could not be determined whether the bird was eating seeds or insects.

The only regular species in the Plocepasserinae was the White-browed Sparrow Weaver *Plocepasser mahali*. It was a fairly common resident in riverine fringes and gardens, although not in Riverine forest. All seen feeding were on the ground.

Of the 15 weavers Ploceinae only ten were regular. The Black-necked Weaver *Ploceus nigricollis* was a fairly common resident in Woodland and was seen in other habitats only in the northern area. The Red-headed Weaver *Anaplectes rubriceps* was an uncommon resident in Woodland and Riverine and was seen regularly around Park Headquarters where it often nested on, or even in, buildings. These two species had very different ecology from the other weavers. They occurred singly and not in flocks and were primarily insectivorous and not

granivorous. Both species took insects mostly from leaves (Black-necked all 16 insects, Red-headed 90 per cent of 32 insects). My data suggest that the Black-necked fed mainly fairly low down (mean height 1.4m, standard error 0.6, $n = 4$) and the Red-headed in trees (mean height 7.9m, standard error 1.3, $n = 9$). The difference is significant ($d = 4.5$ with $df\ 11$, $P < 0.001$). I also saw both species eating fruits (Black-headed: 4 birds on *Commiphora*, 1 on *Salvadora persica* and 1 on *Acacia* pods; Red-headed: 2 birds on *Acacia* pods and 1 on *Premna*). (All the above figures for the Red-headed Weaver exclude two birds seen catching flying termites from a bush.)

All the remaining eight species were seasonal visitors occurring from December to February. The commoner ones reappeared in smaller numbers in April and May. The Golden Weaver *Ploceus subaureus* was not seen in censuses but was seen around its nest sites, particularly in reeds along the Galana River, and there was sometimes a colony in Voi. The Masked Weaver *P. intermedius* was fairly common in Woodland and less so in other thick habitats. The Black-headed Weaver *P. cucullatus* was almost restricted to the Voi area. A few individuals stayed at colonies all the year, e.g. at Voi Safari Lodge, but there were many more present in the wet seasons. The Chestnut Weaver *P. rubiginosus* occurred in Woodland and rarely in other habitats. The Red-billed Quelea *Quelea quelea*, when present, was the most abundant bird in the area and often occurred in flocks of several hundreds, sometimes thousands. It was commonest in open habitats but occurred regularly in all. As with a few other such visitors a few individuals could be seen at all times, but the large flocks were found only in January and February. It has bred in the area then but does not do so regularly. The White-winged Widowbird *Euplectes albonotatus* was only recorded in December and January in damper areas especially near the Voi River. The Fire-fronted Bishop *E. diadematus* was common from December to February but much less so after that. It occurred in all habitats though it was rare in Grassland. Finally, the Zanzibar Red Bishop *E. nigroventris* was a rare visitor to riverside habitats.

All these species are thought to be primarily granivores although most, if not all, will take some insects when breeding. Many of them take the seeds direct from the stem, see discussion below.

Where the species spend the remainder of the year is largely unknown, except for the Red-billed Quelea. This migrates between Somalia and southern Tanzania following the rain belt, with a dry season refuge in northern Tanzania (Ward 1971). I suspect that many other weaver species (and others) will be found to be similar. The Fire-fronted Bishop, however, may be different as it has only very rarely been recorded south of Tsavo (Hall & Moreau 1970). However, this and several other species are very difficult to distinguish when they are not in breeding plumage, and hence a species could easily be overlooked unless it is very common.

Of the five Viduinae only two were regular. The Pin-tailed Whydah *Vidua macroura* occurred rarely, mainly soon after the wet seasons and was almost restricted to Riverine. Males were often displaying but

their main host, the Waxbill *Estrilda astrild*, was very rare. The Paradise Whydah *V. paradisaea* was much commoner and occurred in flocks after rain, especially in January and February, in Riverine and a few were seen in other areas with large trees. All individuals seen feeding were on the ground and it is thought that the species is entirely granivorous.

Other species recorded: Grey-headed Social Weaver *Pseudonigrita arnaudi*, Black-capped Social Weaver *P. cabanisi*, Grosbeak Weaver *Amblyospiza albifrons*, Parasitic Weaver *Anomalospiza imberbis*, Black-winged Red Bishop *Euplectes hordeaceus*, Spectacled Weaver *Ploceus ocularis*, Vitelline Masked Weaver *P. velatus*, Straw-tailed Whydah *Vidua fischeri*, Steel-blue Whydah *V. hypocherina* and unidentified indigobirds *Hypochera* spp.

Waxbills Estrildidae

Only five species were regular and none was common. The Green-winged Pytilia *Pytilia melba* was a resident in all areas with thick bushes. The Red-cheeked Cordon-bleu *Uraeginthus bengalus* was a resident restricted to Riverine and gardens, but was there quite common. The Crimson-rumped Waxbill *Estrilda rhodopyga* occurred between December and March usually near rivers and other damp places. The Grey-headed Silverbill *Lonchura griseicapilla* was an irregular uncommon visitor to any area. Finally, the Cut-throat *Amadina fasciata* was a visitor, at times fairly common especially during January to March to open areas.

I have few feeding data for any of these species and the following comments are mainly subjective impressions. The Green-winged Pytilia stayed mainly under or very close to bushes whereas the Red-cheeked Cordon-bleu was seen further from them, as was the Cut-throat which additionally often occurred in flocks rather than as singles or pairs. These three seemed to feed almost entirely on the ground and mainly on seeds. The pytilia certainly also ate termites (e.g. the stomach analysed by Lack & Quicke 1978). Termites of course occur in the same places as seeds (see discussion below). The other two, Crimson-rumped Waxbill and Grey-headed Silverbill, seemed to take seeds mainly direct from the grass stems not the ground. The birds occurred mainly at times when these seeds were most abundant.

Three other species occurred regularly but were very uncommon. The Purple Grenadier *Uraeginthus ianthinogaster* was regular in Woodland and in thicker habitats in the northern area. The Silver-bill *Lonchura malabarica* was seen near water, and the Bronze Mannikin *L. cucullata* occurred around houses.

Other species recorded: Waxbill *Estrilda astrild*, Black-cheeked Waxbill *E. erythronotatus*, Peters' Twinspot *Hypargos niveoguttatus*, one or more firefinch species *Lagonosticta* sp(p)., Quailfinch *Ortygospiza atricollis*, Orange-winged Pytilia *Pytilia afra*, Blue-capped Cordon-bleu *Uraeginthus cyanocephalus*.

Buntings, finches Fringillidae

The Somali Golden-breasted Bunting *Emberiza poliopleura* was a common resident in Bushland and Wooded Bushland with a few in other habitats with thick bushes, but it was not in Riverine. It fed on the ground walking around like a lark. Food items not recorded but it is thought to eat both insects and seeds.

Other species recorded: Cinnamon-breasted Rock Bunting *Emberiza tahapisi*, Yellow-rumped Seed-eater *Serinus atrogularis*, Grosbeak Canary *S. donaldsoni*, White-bellied Canary *S. dorsostriatus*, Yellow-fronted Canary *S. mozambicus*.

Other land-bird species

Aerial species: swifts Apodidae and swallows Hirundinidae

The methods of study I used were unsuited to these species although a few data on their occurrence were obtained using a series of counts along the roads of the Park. A fixed 189 km was covered each month and all species seen were counted. Other data were obtained on a casual basis only.

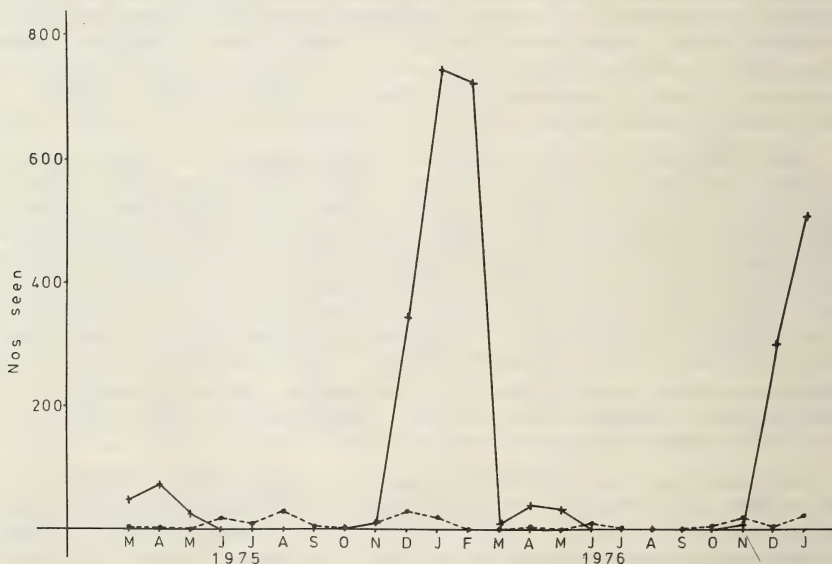


Fig. 6. The seasonal occurrence of aerial species in Tsavo East (data from counts along 189 km of Park roads): solid line Eurasian Swallow *Hirundo rustica*, pecked line all other species of swift Apodidae and swallow Hirundinidae combined.

Three resident species of swift were common and all were seen predominantly around their nests: the Little Swift *Apus affinis* on build-

ings, the White-rumped *A. caffer* especially in culverts but also on buildings and the Palm Swift *Cypsiurus parvus* around doum palms *Hyphaene coriacea*. The last therefore mainly occurred near water-courses.

Only one swallow, the Eurasian *Hirundo rustica*, was common; it occurred from September to early May but was common only from the onset of the rains in November till mid February (see Fig. 6). It occurred over all habitats, usually feeding fairly low over the ground, and it quite often followed large mammals, catching the disturbed insects. Small numbers of four resident species were also seen, usually near their nest sites: the Wire-tailed Swallow *Hirundo smithii* near water, Red-rumped *H. daurica* mainly in culverts, Striped *H. abyssinica* mainly on buildings, and the African Rock Martin *H. fuligula* around rocky hills.

Other species recorded: swifts - Mottled *Apus aequatorialis*, Eurasian *A. apus*, Black *A. barbatus*, Horus *A. horus*, Alpine *A. melba*, Nyanza *A. nianzae*, Böhm's Spinetail *Neafrapus boehmi*, Mottle-throated Spinetail *Telacanthura ussheri*; swallows - House Martin *Delichon urbica*, Mosque Swallow *Hirundo senegalensis*, Banded Martin *Riparia cincta*, Sand Martin *R. riparia*.

Nocturnal species: nightjars Caprimulgidae and owls Tytonidae and Strigidae

There were three regular resident owls of which the Pearl-spotted Owl-let *Glaucidium perlatum* was probably the commonest. It was common along rivers and more rarely anywhere else where there were trees. The Spotted Eagle Owl *Bubo africanus* occurred throughout the Park and was usually found roosting on or near the ground. Verreaux's Eagle Owl *B. lacteus* was only seen in large trees, especially along rivers.

There are eight species of nightjar recorded. Nearly all positive identifications were road casualties, and it is probable that most, if not all, were migratory, occurring in Tsavo during and soon after the wet seasons. Stomach contents of eleven individuals of five species were analysed by Lack & Quicke (1978) and the diets were shown to be very generalized. The eight species recorded are Slender-tailed Caprimulgus *clarus*, Donaldson-Smith's *C. donaldsoni*, Eurasian *C. europaeus*, Gabon *C. fossii*, Dusky *C. fraenatus*, Plain *C. inornatus*, Nubian *C. nubicus* and Freckled *C. tristigma*. Of these Donaldson-Smith's and Gabon were probably the commonest.

Other owls recorded: White-faced Scops Owl *Otus leucotis*, Scops Owl *O. scops*, and Barn Owl *Tyto alba*.

Birds of Prey Accipitridae, Pandionidae and Falconidae

My methods of study were again unsuited to the study of such large and wide-ranging species, and they have already been the subject of a detailed study by Smeenk (1974, especially pp. 7-24 and Appendices 2 and 3). The majority of the larger species feed on vertebrates and hence

were not competing with any of the other land-birds considered in this study. Some of the smaller species certainly ate insects as well. However, the only two which were seen as regularly as any of the other land-birds were the Pygmy Falcon *Polihierax semitorquatus* and the Kestrel *Falco tinnunculus*. The Pygmy Falcon was a resident and occurred in all habitats. It behaved like a roller *Coracias* sitting on prominent perches and pouncing to the ground, although it also chased small birds. The Kestrel occurred from November to March and was most often seen hovering over very open grassy areas. It was therefore unlike any other bird in the area in its feeding habits.

A total of 52 species of bird of prey have been recorded (list in Lack, Leuthold & Smeenk 1980).

Others

A few storks Ciconiidae were occasionally seen feeding in the grass, especially the White Stork *Ciconia ciconia* and Abdim's *C. abdimii*, but neither these nor any others can have more than a very minor effect on the ecology of the land-birds of Tsavo.

DISCUSSION

As stated earlier, there are three major food types utilized by birds in Tsavo: fruits, seeds and insects, and a few species eat nectar and others that eat small vertebrates. The species eating these foods have some characteristics in common and these are discussed briefly here.

All the species eating fruits were common in Woodland and/or Riverine and the majority were rather rarely seen in the more open habitats. This is not too surprising when one considers the distribution of the fruits. The only fruit eaten regularly which occurred in the Park savanna habitats was *Premna* spp., and this only fruited for a short period after each wet season. All frugivores ate substantial amounts of the most abundant fruits, especially *Commiphora* and *Salvadora persica*. Those birds which ate insects as well, largely restricted their fruit diet to these but those birds which were purely frugivorous also ate a wide variety of other species of fruit. For many of the former birds, the insects they ate were also largely the most abundant ones, termites, and this applied even to the largest birds, the four hornbills *Tockus* spp.

Premna spp. were relatively unimportant to frugivores in general, but were eaten regularly in April by one group of insectivores, some of the Palaearctic chats and warblers, especially Irania, Whitethroat and Barred Warbler. This is a period when these birds are presumably fattening in preparation for their flight to their breeding areas. The birds were commoner, and the *Premna* fruit was freely available, in December but none of the birds was seen to take it at that time. Presumably the birds did not need so much fat in December as, although many were probably just passage migrants, they were not intending to

travel so far. This contradicts Berthold's (1976) experimental work which showed that similar bird species preferred animal food at migration times and the intake of vegetable matter was actually decreased then.

The granivores showed completely different habitat preferences to frugivores. Most were commonest in the Park savanna habitats, which reflects the availability of their food. The resident granivores took most of their seeds from the ground after it had fallen, and hence they preferred areas with a low grass cover. Many, but not all, of the visitors preferred areas with a higher grass cover and took their seeds direct from the stem of the grass.

There is quite a large number of birds which appeared to take both seeds and insects from the ground. Details of their ecological differences, if any, were very difficult to determine largely because it was very difficult to see what they were actually eating. On several occasions I searched the ground where birds had been feeding industriously: there were often seeds and termites, and sometimes other insects and even fallen fruit, but also very often there did not appear to be anything edible at all. Much of the food may be very small.

A majority of the birds in Tsavo ate insects although they may eat other things as well. There are three major sources of these - the air, the ground and herbage, and the woody vegetation; and the Red-billed Oxpecker uses a fourth - the hides of large mammals. Each of the three major sources is utilized in two main ways, and relatively few species use more than one source or method of feeding. The aerial insects are captured either from continuous flight, a method used by swifts and swallows but few others, or by sallying to individual items from a perch. Swifts and swallows evidently use the source slightly differently from each other as, among the resident species there is one of each family by water, one of each near buildings and one of each near culverts, although in some places the last four and the African Rock Martin all occur together.

Those species sallying from a perch are nearly all fairly small, and it is surprising that only one, the Pied Wheatear, uses both this method of feeding and pouncing to the ground on a regular basis, as the methods appear to be very similar. However, there may be a conflict between the manoeuvrability needed to catch fast-moving prey in the air, and the size and strength which seems to be characteristic of the pouncing species (see below). Those species sallying from a perch to the air almost always stay close to the vegetation, and are largely in the thicker habitats and not out in the open.

The two groups of species taking insects from the ground are those which pounce from an elevated perch to single items (pouncers), and those which stay on the ground and run between items (gleaners). A few species, notably the Rock Thrush and Northern Wheatear, combined the methods. Their usual feeding method was to pounce to the ground and then eat several items, often running between each, before returning to a perch.

Most of the pouncers are quite large and many have strong hooked beaks. They and the aerial species must expend considerably more energy per food item than species using other methods so there may be a lower limit to the size of prey worth taking. As noted above, the aerial species are on the whole small and probably sacrifice some of their size and strength for manoeuvrability, and sacrifice a strong beak for a wide gape. Pouncers are larger and probably take larger prey, though I have no direct quantitative data on this except for noting often that it was 'quite large'. However, three measures might be related to it: height of perch, distance flown to items and feeding rate. If the bird perches higher it can search further; it is only worth flying out further to larger items; and if feeding is less often it should be only for larger items. I have sufficient data on these measures for ten species of pouncer - two rollers, two kingfishers, five shrikes and a flycatcher and Table 17 gives the correlation co-

TABLE 14

Correlation coefficients between size of bird (weight) and three feeding characteristics of specialist pouncing species

Feeding characteristic	All 10 species (df 8)		Without 2 kingfishers (df 6)	
	r	Significance	r	Significance
Height of perch	0.33	N.S.	0.60	N.S.
Distance flown to food	0.63 P	0.05	0.69 P	0.10
Feeding rate	-0.55 P	0.10	-0.76 P	0.05

Note: the probability level for 'distance flown to food' is approximately equal to 0.05 in both cases.

efficients between the three traits and the size (weight) of the ten species. The two kingfishers have a very different beak shape from the other eight species, and the table also shows the correlation coefficients when these two species are excluded. There is a significant relation with two of the three variables, and there is an increase in the probability value for two of them when the two kingfishers are excluded. (With distance flown the probability is approximately equal to 0.05 in both cases.) This suggests that beak shape is likely to be as important as body size in determining what prey can be tackled. The two kingfishers perched higher, flew out a little further and fed less often than one would have expected from their weight in relation to the other species, and hence may be taking larger prey.

There were a large number of species which gleaned on the ground and most of these appeared to be eating the same food as each other, especially termites. The great majority of the birds were open country species feeding from bare ground and/or areas with a low grass cover, although there were a few which were confined to thick grass, e.g. Ashy Cisticola, or litter in the thicker habitats, e.g. Bare-eyed Thrush.

There are also a large number of species in the group which take food from leaves in the woody vegetation. (The other group is the twig specialists, see below.) Like the ground gleaners, the leaf gleaners all seemed to take the same food, although they do largely divide into tree feeders and bush feeders. Perhaps not surprisingly in view of the seasonality of leaves, they are less common and widespread than the ground feeders, and a high proportion of them were confined to Woodland and/or Riverine, which are probably the least seasonal of the major habitat types. These habitats also have thicker bushes and more evergreens than the open Park savanna habitats, both of which will hold more insects and hence more birds, especially in the dry season.

The final group is the twig specialists, although some of the previous group also take some food from twigs of necessity. The group contains seven common species, two woodpeckers, two wood hoopoes, two helmet shrikes and the Northern Crombec and they all seemed to feed slightly differently from each other.

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THE SPOTTED GROUND THRUSH *TURDUS FISCHERI FISCHERI*
AT GEDE IN COASTAL KENYA

L.A. Bennun

Turdus fischeri, the Spotted Ground Thrush, is a rare, elusive and little-known African bird with a very fragmented distribution. Four races are described, all existing in isolated patches of moist ever-green forest. *T.f. natalicus*, the largest, breeds in coastal forests in eastern Cape Province, South Africa, migrating in March to Natal and southern Kwazulu (Clancey 1955, 1957). The Malawi race *belcheri* appears to be resident, but scarce, up to at least 1500 m in the Soche and Thyolo forests near Blantyre (Benson 1950, 1952, 1954). A race, *maxis*, was described in 1982 on the basis of a specimen collected at 1250 m in the Imatong Mts, southern Sudan (Nikolaus 1982). The nominate race is known only as a non-breeding visitor between March and November to forests on the Kenya coast (Britton & Rathbun 1978). Completing this pattern of wide geographical separation, an unassigned bird has been collected at 1700 m in the Upemba National Park of southern Zaire (Benson & Benson 1975).

Only *natalicus* is thought to be reasonably common. *T.f. belcheri* persists as a very small population, while the type specimen remains the only record of *maxis* despite three years of fieldwork in the Imatongs by its discoverer (Nikolaus 1982). Mackworth-Praed & Grant (1960) considered the nominate race "probably now extinct"; there had been only two sight records since Fischer's original specimens were taken in 1885 (Benson 1950, 1954). However, a specimen was shot in Soko Forest in 1964 (Keith & Twomey 1968) and regular sightings subsequently established the bird as seasonally common in three tiny patches of coral rag forest at Gede, Shimoni, and Jadini. There appears also to be a seasonal presence at a much lower density in Soko Forest, and a few records have been obtained elsewhere on the coast (Britton 1980, Britton & Rathbun 1978, Britton, Britton & Coverdale 1980). The birds' breeding grounds are unknown. This study was undertaken to assess the status and general ecology of the nominate race at Gede; it was carried out during July and August 1983 as part of the University of East Anglia - International Council for Bird Preservation Arabuko-Soko Forest Expedition.

METHODS

Gede Ruins National Monument (3.18'S, 40.01'E) protects the ruins of a fifteenth century Afro-Arab town. The 44-ha site, on coral rag, has been cleared around the main excavations but is otherwise covered with dense semi-deciduous lowland forest (Moomaw 1960).

Mist nets were used at eight sites distributed across the forested area (Fig. 1), from 10 to 17 and 22 to 25 July. Choice of site was constrained by the availability of suitable small paths or trails;

these usually required some clearing, and the net lengths used varied. Several sites were operated simultaneously, the nets being open at each for two morning and two afternoon sessions (i.e. one evening, the whole of the next day, and the morning following that). Nests were opened at 06:00 and closed at 18:30.

Weights and wing-lengths were taken for all species caught; in addition, all *T. fischeri* were individually colour-ringed, with colour combinations chosen to minimize possible confusion in dim light. Relocation and observation of colour-ringed birds continued at intervals until 19 August, and retrapping was organized at sites A and C (Fig.1) on 8 and 9 August. Some habitat assessment (described below) was un-

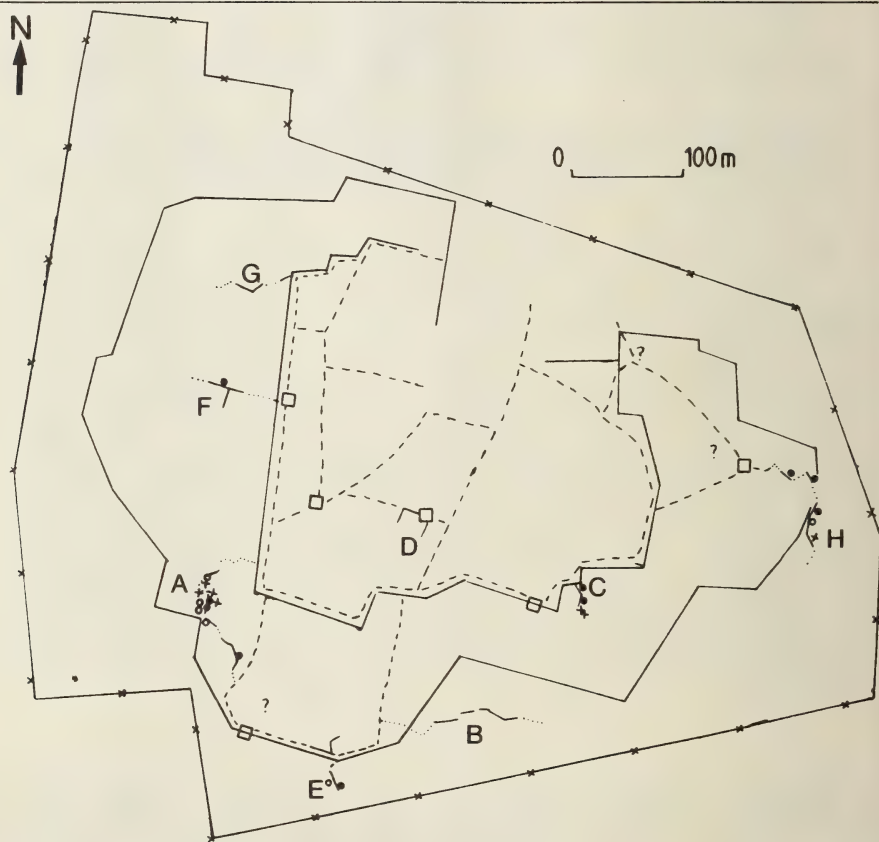


Fig. 1. Map of Gede Ruins National Monument. Key: ---- path, □ ruined building, — ruined wall, *—* forest edge, A - H are net sites, ● Ground Thrush first caught, ○ retrap, x relocation, — position of net, ? sighting of unringed bird.

dertaken towards the end of the study period. This report also includes data for *T. fischeri* captured during the expedition's work in

the adjacent Sokoke Forest (Kelsey & Langton 1984).

RESULTS AND DISCUSSION

Ten *Turdus fischeri* were captured at Gede, and three in Sokoke Forest. Mean wing-length was 118.3 mm (range 114 - 121 mm) and mean weight 58.2 g (range 53 - 62 g). Six recaptures were made at Gede, and three colour-ringed individuals were relocated (Fig. 1). Three of the marked individuals at Gede were neither relocated nor retrapped.

General habits

The species was at all times very difficult to observe, being silent, shy, and extremely well camouflaged. The birds were markedly terrestrial; when disturbed on the ground they generally stood quite still, remaining motionless for up to six minutes before beginning to forage once more in a typical thrush fashion, making one or two rapid hops then plunging the beak repeatedly into the leaf litter.

Vocalizations

The South African race *natalicus* has a rich musical song uttered from high in a tree (Chiazzari 1952). The only vocalization identified at Gede was a very quiet, thin *tswee* call made while the bird foraged. Song has been heard at Diani (Jadini) south of Mombasa (Irvine & Irvine 1977b) and birds there have sung in response to recordings of the song of the race *natalicus*; the nominate race's song at Diani proved, however, to be quite distinct (R. McVicker pers. comm.) and is heard throughout the birds' stay in Kenya.

Activity

Capture and relocation timings suggest that the species is most active early and late in the day. None was caught between 09:20 and 17:00, although one bird (B/Y) was observed foraging actively at 11:20, suggesting that a steady low level of activity may be maintained throughout the middle hours. Taking all records together, there is no suggestion of greater activity in the morning than the afternoon hours, or vice versa (29 morning, 20 afternoon sessions; 15 morning, 8 afternoon records: χ^2 -test; $P > 0.1$).

Home range

All recaptures and relocations were very close to the original capture points. The greatest displacement was 40 m in the case of the immature bird, R/W; all others (13) were below 30 m, and most were much smaller than this. Site fidelity was not just a short-term phenomenon; for example, R/DG and DG/W were retrapped a few metres from their original capture points over a month after they were colour-ringed. It thus seems appropriate to regard individual *T.f. fischeri* as moving and foraging within a well-defined home range. By contrast, retrap data for the Red-capped Robin Chat *Cossypha natalensis* (another migratory thrush occurring at Gede: Britton & Rathbun 1978) show that movements between net sites, involving distances of more than 100 m, were not uncommon.

No territorial interactions were observed in *T.f. fischeri*; indeed, no two birds were ever seen in close proximity. Some, though, may have had partially overlapping home ranges; for instance, DG/W and R/DG were initially caught in the same net at site A, and DG/W was re-trapped within the known home range of R/DG. At net site C, birds B/Y and W/LG had capture points very close together.

Two birds, R/DG and B/Y, were located often enough to allow the calculation of home range areas (Fig. 2). The method employed was that of

Jennrich & Turner (1969) which relies on the covariance matrix of the location points: the points were mapped on to an arbitrary Cartesian grid, and the area calculated from their co-ordinates using the appropriate formulae. Of relatively simple methods this gives the most accurate and stable estimate with a small sample, and is the least sensitive to temporal contingency in the points used (Ford & Myers 1981). Calculated areas were 1360 m² for R/DG and 1347 m² for B/Y. The similarity of these values may be fortuitous; certainly they must be regarded as minimum estimates for the utilized areas, since it is likely that birds were more difficult to detect the further away they were from the net site paths.

Relative abundance

The ringing results suggest that *T.f. fischeri* was the second most abundant forest floor bird at Gede in July and August, after *Cossypha natalensis* (Table 1). Britton & Rathbun (1978) gave second place to the Eastern Bearded Scrub Robin *Cerco-trichas quadrivirgata*; this is a much more conspicuous bird than the ground thrush and observers have probably overestimated its relative numbers in the past. Pooled results from Sokoke Forest show that there *C. quadrivirgata* is, overall, the more abundant of the two (Table 1); however, the Sokoke survey covered a number of different habitat types, so it is not possible to make a straightforward comparison.

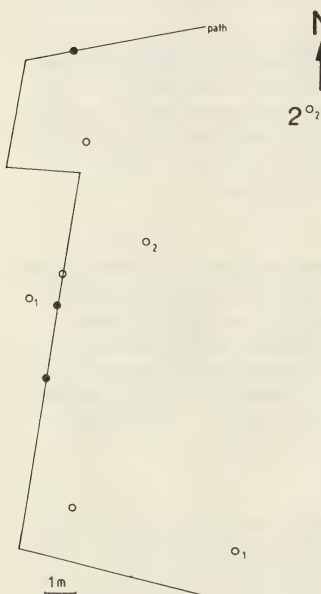


Fig. 2. Location points for bird R/DG at net site A, used to calculate home range area. Sightings with the same number are temporally linked, representing the first and last points where a bird was observed on a single occasion. o seen, • caught.

Age structure

Only one immature Spotted Ground Thrush was caught at Gede; the immature:adult ratio was much lower than in either of the other terrestrial thrushes (Table 2: data from Gede and Sokoke combined). This scarcity of immature birds was unexpected. Kenyan ringing records for the species from 1972 to 1981 indicate that, of 19 birds handled, 10 were

TABLE 1

Total numbers caught of three ground-dwelling thrushes

	Sokoke Forest	Gede Ruins
<i>Cossypha natalensis</i>	49	37
<i>Turdus f. fischeri</i>	3	10
<i>Cercotrichas quadrivirgata</i>	17	5

adults, 3 "fully grown" and 6 immature. Conservatively counting the "fully grown" birds as adults gives an immature:adult ratio for this period of 1:2.2, comparable to the ratio found here for *Cossypha natalensis*. Given this proportion, the chance that no more than one bird out of thirteen caught would be an immature is significantly small, although only barely so (binomial test; $P = 0.05$). There are several possible reasons for this apparent difference in age structure. Most obviously, it could be caused by unusually poor breeding success in the season prior to the study. However, unlike this study, the ringing data for past years include presumed passage periods, as they cover all months from April to October; they also include records from Bamburi, Jadini, Mrima and Shimoni as well as Gede and Sokoke. Adult birds might well exclude immatures from areas of optimum habitat, such as Gede appears to be, so that a larger proportion of immature birds would be captured during passage periods and in sub-optimal forest tracts. With only 19 past records there is unfortunately little scope for subdivision to test this idea. Despite the tiny samples though, it is of interest to examine the coral rag forests (Gede, Jadini and Shimoni) together. Here the immature:adult ratio is 1:2 for the pre-

TABLE 2

Immature:adult ratios for three ground-dwelling thrushes
[ringing results pooled for Sokoke Forest and Gede Ruins]

	Total no. immatures	Total no. adults	Immature:adult ratio
<i>Cossypha natalensis</i>	29	57	1:2.0
<i>Turdus f. fischeri</i>	1	12	1:12.0
<i>Cercotrichas quadrivirgata</i>	8	14	1:1.8

sumed resident period (taken as the second half of May to the first half of September, inclusive; six birds) and 1:1 for dates outside this (four birds).

Population size

Because the Spotted Ground Thrush is so hard to see, and the number of birds caught was small, conventional methods of population size estimation are inapplicable. To overcome this difficulty a simple techni-

que was devised that uses the calculated home ranges to obtain an estimate of the total area sampled during netting (see Appendix). Using this, the estimated population density is 2.9 birds/ha, giving a total of 113 *T.f. fischeri* in the 39 ha forest area. These are upper limits; if the true home ranges were indeed larger than calculated, then the density estimates would be reduced accordingly.

The overall population density in Sokoke Forest is presumably much lower than that at Gede Ruins; a direct comparison is impossible, but while much more mist-netting took place in Sokoke than at Gede (Kelsey & Langton 1984), only three Spotted Ground Thrushes were caught there. Because of the forest's still considerable area, some 37 200 ha, even a low overall density of *T. fischeri* could imply a sizeable population. However, only some 28 per cent of the forest is still undisturbed, and this proportion is diminishing constantly (Kelsey & Langton 1984).

Diet

Attempts during this study to determine diet (by use of tincture of ipecacuanha to induce regurgitation) proved unsuccessful). From stomach contents, Chiazzari (1952) described the diet of the race *natalicus* as "grubs and insects". Three specimens of the nominate race in the National Museum, Nairobi, had fragments of small millipedes *Prionopetalum* spp. in their stomachs, while the stomach of a bird from Sokoke Forest collected in July contained seeds and fruit pulp (Britton & Zimmerman 1979).

Ants have been suggested as part of *T.f. fischeri*'s diet (Mackworth-Praed & Grant 1960, Burrell & Abel 1976). Large swarms of ants *Dorylus* sp. are often encountered at Gede Ruins, and attract considerable numbers of forest birds: for example *Cossypha natalensis*, *Cercotrichas quadrivirgata*, and *Nicators Nicator chloris*. *Turdus fischeri* was never observed in these feeding parties. In one instance, a swarm was watched for 3½ hours in the home range of R/DG; R/DG itself appeared after 2½ hours, perched near the edge of the swarm for some ten seconds, then flew away from the bird party and was lost to view.

On the available evidence, *T.f. fischeri* thus appears to be a generalist ground feeder, but a solitary one that may actually avoid parties of feeding birds.

Habitat preferences

A survey was carried out to assess several habitat variables (mainly related to the amount of shade cast by the upper canopy). Ten sites were selected, five in the assumed home ranges of individual ground thrushes and five at net sites where none of this species had been caught or observed. At each four 4-m² quadrats were sampled, one each 10 m north, south east, and west of an arbitrary point along the track. The following were assessed: relative proportions of bare soil, leaf litter and low herbaceous growth; the numbers of woody plants in each of four size groups; the degree of undergrowth tangle on a 0-5 scale; leaf litter thickness (the average of the number of fallen leaves at four specified points within the quadrat).

The results (Table 3) show that the Spotted Ground Thrush appears to prefer habitat characters associated with deep shade: nearly complete canopy cover, extensive, thick leaf litter, and a relatively sparse growth of small saplings. The impression was that the birds' home ranges included one or more densely shaded glades, rather open at ground level, with nearby areas of low, thick, undergrowth, tangled with dead wood and vines, where they retreated when threatened.

TABLE 3

Quadrat results averaged for T.f. fischeri home ranges ("+SGT") and net sites where no T.f. fischeri were caught ("-SGT")

Variable	means: + SGT	means: - SGT	significance of difference ¹
Depth of litter (1-5)	3.3	1.8	P < 0.01*
Soil cover, per cent	37.9	40.6	NS
Leaf cover, per cent	51.3	36.1	P 0.05
Herb cover, per cent	10.8	24.3	NS
Trees class A, <0.5m high	8.6	20.0	NS
Trees class B, 0.5 - 2m high	4.0	10.4	P 0.05
Trees class C, 2 - 4m high	1.2	2.0	NS
Trees class D, >4m high	2.6	2.0	NS
Tangle (0-5)	3.3	3.4	NS*
Canopy cover, per cent	90.4	75.6	P 0.005

Notes: ¹ = t-test, except * = Mann-Whitney U-test

Facial skin

All the *T.f. fischeri* caught had a small patch of bare skin behind each eye. This patch was coloured pink in six of the birds, and purplish-blue in six of the others (the colour was unrecorded for one). Two specimens in the collection of the National Museum, Nairobi, a male and a female, both have the patch coloured "dark pinkish", as recorded on the labels. This thus seems unlikely to be a sexually dimorphic character, despite the proportions observed.

Moult

All but four of the Spotted Ground Thrushes handled had completed wing moult, including the first three birds captured (on 10 July) and all five caught after 25 July. The four still moulting were well advanced in replacement (primary scores, out of 50, were 38, 45, 47 and 49). Moult thus appears to be completed by the end of July. A specimen (No. 12287) in the National Museum, collected on 5 May 1966, was in early moult (primary score 5) suggesting initiation shortly after arrival in the non-breeding quarters. To set against this, a bird ringed in Sokoke by P.B. Taylor on 3 May 1981 had fresh primaries, indicating replacement was already completed. Further information is re-

quired before any conclusion can be drawn.

General discussion

The results confirm that the Spotted Ground Thrush occurs at a much greater overall density at Gede Ruins than in the nearby Sokoce Forest. Britton & Rathbun (1978) suggest three reasons why the Gede Ruins forest might be preferred: 1) 'the accumulated detritus from the prolonged occupation of Gede might have improved feeding opportunities 2) the birds might favour wetter areas of lowland forest, with rainfall greater than 1000 mm/yr, 3) there might be a preference for the uneven ground characteristic of coral rag.

The 'accumulated detritus' hypothesis is unsatisfactory, since *T. fischeri* shows a high seasonal abundance not only at Gede but also at Jadini (Diani) and Shimoni (Britton 1980, Britton & Rathbun 1978, Irvine & Irvine 1977a, 1977b, M.A.C. Coverdale pers. comm.). The birds' preference appears to be for coral rag forest in particular, not simply for wet lowland forest: they are not more common in the lowland rain forest sector of Sokoce than in the drier habitat types there (Britton & Zimmerman 1979). The ground thrushes recorded in Sokoce during the study period were captured in *Azelia* forest (two birds) and dry *Cynometra* thicket (one bird; Kelsey & Langton 1984). Substrate evenness could conceivably affect the birds' habitat choice, but it seems more likely on present evidence that they are selecting sites with particular vegetation characteristics: areas of closed canopy providing deep shade, thick leaf litter and scant or patchy low vegetation. The capture site of the *Cynometra* bird in Sokoce corresponded precisely with this description; the canopy was much lower than at Gede but almost completely closed (unfortunately the capture sites of the other two Sokoce birds could not be visited). The species' higher density on coral rag could thus be explained if tracts of structurally suitable habitat occurred there more commonly than in the other coastal forests. There is some evidence for this from transect work carried out to create vegetation profiles of Sokoce habitats (Kelsey & Langton 1984). It is possible too that soil type and high rainfall combine in the coral rag forests to improve conditions in the leaf litter for the ground thrush's invertebrate prey. In this respect it would be interesting to compare invertebrate productivity in structurally similar areas of Sokoce and Gede.

Further ringing is required to establish whether the apparent scarcity of immature birds at Gede is a real phenomenon, and, if so, what its causes are. However, this finding does illustrate clearly the importance of locating *T.f.fischeri*'s breeding grounds. Other races are restricted to small patches of forest where the threat of habitat destruction may be great.

As migratory coastal races, nominate *fischeri* and *natalicus* may be contrasted with the apparently sedentary inland races *belcheri* and *maxis*. The species, like the African *Pitta* *Pitta angolensis*, is one of the very few true forest birds in Africa to show anything more than altitudinal migration (Benson 1981). Britton & Rathbun (1978) find

"surprising" the movements of the nominate race away from the Kenya coast in months when food is readily available in the leaf litter. As in any migratory species, however, events elsewhere must also be taken into account; movements might, for instance, be timed to coincide with a peak in food abundance in the breeding quarters. The onset of seasonal rains usually has a direct effect on food supply, with insects abundant in the early rains and remaining numerous until the end of the wet season (Curry-Lindahl 1981). The Spotted Ground Thrush migrates from the Kenya coast as the rains there end and those in the southern tropics begin. The birds reappear in Kenya around March (Britton & Rathbun 1978) at the start of the coastal wet season (Britton 1980). If rainfall is the primary factor influencing the species' migration, it seems most likely that the birds breed in northern Mozambique, as suggested by Benson to S.N. Stuart (pers. comm.). Since this is one of the ornithologically least known areas of Africa (Brooke 1984), and *T.f. fischeri* one of the more elusive of African birds (Benson 1950, Chiazari 1952), the undetected existence of a small breeding population is not implausible. There is some mystery, however, in the complete absence of records for Tanzania south of Pangani (Britton & Rathbun 1978).

Despite the high density of non-breeding *T.f. fischeri* at Gede and other coral rag forests, Sokoke Forest may well support the largest total population while the birds are in Kenya. The results of this study suggest that the Spotted Ground Thrush is unlikely to tolerate much modification of its habitat; while the future of the Gede Ruins forest seems reasonably secure, the proportion of primary forest remaining in Sokoke continues to dwindle (Kelsey & Langton 1984). Much more effective conservation measures must be introduced there if *T.f. fischeri*, and other rare animals, are to survive.

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Thanks to the Office of the President and the National Museums of Kenya for research permission, to the sponsors of the U.E.A.-I.C.B.P. Arabuko-Sokoke Forest Expedition and Clare College, Cambridge for financial assistance, to the staff at Gede Ruins National Monument for their interest and help, and to N. Collar, M.A.C. Coverdale, R. McVicker, S.N. Stuart and G.R. Cunningham-van Someren for assistance in various ways. G.C. Backhurst kindly allowed me access to EANHS ringing records, while J. and S. Cheffings generously made available accommodation in Malindi. Special thanks to the other members of the Expedition, Gary Allport, John Bowler, Martin Kelsey and Tom Langton, for their unflagging support. Gary Allport supervised ringing and collected the moult data; my thanks to P.B. Taylor for additional moult records. I am most grateful to Victor Caddy, Paul Kelly, Martin Kelsey, P.B. Taylor and an anonymous referee for their criticism which served materially to improve the paper.

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APPENDIX

CALCULATION OF POPULATION SIZE

Consider a population of birds within a closed area A.
Assume

- 1) birds have circular home ranges, radius r (these may overlap to any extent);
- 2) a mist net placed within A will catch all those birds whose home range it intersects, i.e. all those with home range centres distant $\leq r$ from the net.

If several net lengths are used (separated from each other by $< 2r$ at all points), the density of home range centres in the surrounding area is given by

$$d = N / (2Lr + i\pi r^2 / 2)$$

where

- N = total number of birds caught
 L = total net length
 i = number of free net ends

This provides an estimate of the overall density of home range centres - i.e. of birds - in A.

The trapping and observation results indicate that assumption 2) is probably valid for *T.f. fischeri* at Gede. The home range circularity assumed in 1) is for mathematical convenience; the estimate should not be greatly in error if the assumption is invalid, provided that home ranges are oriented randomly with respect to the nets. Net sites were well distributed over the forest, which should increase the estimate's accuracy.

In this case, $r = 21\text{m}$, $L = 513\text{m}$ (including short gaps between nets), $i = 18$, $N = 10$ and $d = 2.9$ birds/ha. The forest area at Gede is some 39 ha, giving a total population of 113 *T.f. fischeri*. The figures calculated must be upper limits, since r may well be underestimated.

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SHORT COMMUNICATIONS

TWO ADDITIONS TO THE SOMALIA LIST: GREATER FRIGATEBIRD *FREGATA MINOR* AND INDIAN HOUSE CROW *CORVUS SPLENDENS*Greater Frigatebird *Fregata minor*

Difficulties in identifying frigatebirds *Fregata* spp. in the field have not been aided by various unhelpful and often misleading descriptions of their various sex and age categories. The results of Harrison's (1983) detailed study and his illustrations of each sex and age category for all the species are of particular value, and permit almost every frigatebird seen reasonably well to be identified.

Since the 'Birds of Somalia' (Ash & Miskell 1983) was written I have had the opportunity to see many hundreds of frigatebirds of three species, and have spent much time in identifying the various sex and age groups from field sketches. As a result some earlier identifications require revision and birds claimed to be Lesser Frigatebirds *F. ariel* in Somalia are reidentified. The details of plumage are not given here in the following list of records of *F. minor*, for they can be found in Harrison (1983) by referring to the relevant sex and age category.

- a. Gezira (1.56N, 45.11E), 1 November 1978, 1 juvenile 1st stage white-breasted form drifting NE along the coast.
- b. Gezira, 8 August 1979, 1 as above feeding with terns Sterninae.
- c. Mogadishu (2.02N, 45.21E), 24 November 1980, 1 immature male 2nd stage, drifting SW along the coast.
- d. Mallable (2.12N, 45.37E), 16 October 1981, 1 juvenile 1st stage white-breasted form, drifting NE along the coast.
- e. Gezira, 12 November 1981, 1 (as d. above), feeding with flocks of terns.
- f. Gezira, 16 November 1981, 3 (as d. above), feeding with a flock of terns.
- g. Gezira, 24 July 1980, 2 frigatebirds drifting slowly NE high above the sea in poor visibility were probably *minor*.

Of the eight individuals of *minor* recorded, one was in August and the remainder within a period of less than six weeks during 16 October to 24 November. All the birds were in juvenile/immature plumage, but this does not necessarily represent recent fledging for this plumage may be retained for up to 2½ years (Diamond 1975). The race *F.m. aldabrensis* breeding in the western Indian Ocean south of the equator on Aldabra, Tromelin and Cargados Shoals (Harrison 1983), is characterized in immature birds by white or yellowish-white heads (Diamond 1975). The evidence suggests that the birds seen in Somalia belong to this race.

The distribution maps in Harrison (1983) show both *F. minor* and ar-

iel along the eastern coast of Africa extending from Mozambique as far north as the equator in Somalia in the case of *minor* (and South Africa as outside its normal range), and *ariel* extending to about 5 degrees N (and the Gulf of Aden as being outside the normal range). Brown et al. (1982) show *minor* extending continuously from South Africa to the equator in Somalia, but *ariel* from about Dar es Salaam in Tanzania along the whole of the Somalia coast to about 15 degrees N in the Ethiopian Red Sea. However, there is only one record of *ariel* from Somalia (Archer & Godman 1937), and previously there have been no records of *minor* (Ash & Miskell 1983). Further south in East Africa, although there are numerous records of unidentified frigatebirds, there is only one of *ariel* from Tanzania, and three records of *minor* - two from Kenya and one from Tanzania (Britton 1980). Bailey (1968) found *F. ariel* and other unidentified frigatebirds off the coasts of Somalia, Kenya and Tanzania, but they were far out to sea - the closest to land being over 60 km out.

The new entry for the Somalia check-list is:

- 19a *Fregata minor aldabrensis**+ Greater Frigatebird 29
Rare non-breeding visitor with 8 recent records on SE coast in Aug, Oct, Nov. 63cd, 69a.

The previous entry for *ariel* needs to be amended as follows:

19. *Fregata ariel iredalei* Lesser Frigatebird+ 30
An old record of 2 birds on the NW coast in Jul. 2a. (Also 2 unidentified *Fregata* in the SE in Jul.)

Indian House Crow *Corvus splendens*

Of special interest now that Indian House Crows are increasing in several areas and have acquired pest status, is a report by Davis (1951) which was overlooked when the 'Birds of Somalia' was being prepared (Ash & Miskell 1983). He describes how four house crows were blown on to his ship as he was leaving Colombo, Sri Lanka, and remained aboard for six days until they flew off at Cape Guardafui (11.50N, 51.17E), Somalia, where they were watched through binoculars as they flew ashore. Ship-assisted passage of this sort has been attributed for the spread of this species to other areas (e.g. Feare & Watson 1984), but it must be rarely possible to substantiate the claim. There is an unconfirmed report of them doing damage to dates at Bulhar (10.23N, 44.25E) in northern Somalia in 1972, but searches by J.E. Miskell and myself failed to find any there in 1979.

The new entry for the Somalia check-list is:

- 406a *Corvus splendens protegatus* Indian House Crow 1174
One old record of the Sri Lankan race from the NE. 7a.

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A RECORD OF THE LESSER FRIGATEBIRD *FREGATA ARIEL* FROM KENYA

During mid January 1980, my daughter Laria and I were at the Ocean Sports Hotel, near Watamu, Kenya (3.21S, 40.01E), outside one of the hotel's cottages on the rise behind the beach. We saw a frigatebird *Fregata* sp. flying northwards, inland of the line of casuarina trees which grow along the top of the beach. We had never seen a frigatebird in the wild before, but I know them well from films. The bird passed overhead at a height of about 40-50 feet (12-15m), and I obtained good views of the underside through binoculars.

Field identification of frigatebirds is difficult (see Harrison 1983), but this individual was readily recognizable as an adult male Lesser Frigatebird *Fregata ariel* by its unique ventral plumage pattern which was entirely black apart from a clearly visible oval white patch on each flank, which tapered to a point on the underwing. The flight was leisurely, with very slow, buoyant wing-beats. I immediately made a sketch of the bird's general shape and underside pattern, but did not record the exact date as I was unaware of the absence of earlier records of this species in Kenya. The time was about 16:15 - 16:30, and the date was between 12 and 15 January. The weather was clear, with a light breeze.

The race *F.a. iredalei* breeds on islands in the western Indian Ocean and disperses north to the coasts of India and Somalia (Harrison 1983, Ash & Miskell 1983), however, Ash (1985) has reappraised the Somalia records so that its status in that country now rests on a single old record of two birds in the NW. The only certain records of the species from the eastern seaboard of Africa south of Kenya are single reports in October (a skull) and May at Dar es Salaam, Tanzania (Britton 1980, East African Bird Report 1983, Harrison 1983). The present record is the first of the species from Kenya.

I am most grateful to Adrian Lewis for his help in drafting this note, and in particular for his provision of background information and literature.

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NOTES ON BEHAVIOUR AND PLUMAGE DIMORPHISM IN LAGDEN'S
BUSH SHRIKE *MALACONOTUS LAGDENI*

Lagden's Bush Shrike *Malaconotus lagdeni* has rarely been recorded in East Africa (East Africa Natural History Society 1982). During September 1984 I observed this species on three occasions in the Bwindi Forest (formerly known as the Impenetrable Forest), southwestern Uganda. These observations may be of interest since virtually nothing seems to be known of the habits of this uncommon bird (Bannerman 1939, Chapin 1954, Mackworth-Praed & Grant 1970, Lippens & Wille 1976). An hitherto unknown plumage variant is also described and discussed.

The species was first observed at 2300 m on the northern perimeter of the Forest Reserve near Ruhizha Forest Station (1.02S, 29.46E), in patchy, disturbed forest on a steep hillside. The bird appeared a very large and thickset bush shrike with an extremely heavy black bill, immediately recognizable as *M. lagdeni* by its striking black, yellow-tipped inner secondaries and wing coverts. The face, crown, nape and upper mantle were dark grey, sharply demarcated from the dark green lower mantle. Below, the throat and upper breast were bright orange-yellow, merging into yellow on the belly and under-tail coverts; the flanks were pale green. The bird was perched on a stout horizontal branch, against which it was beating a large, uniformly green insect, probably a katydid (Orthoptera: Tettigonidae).

A second bush shrike alighted nearby a moment later. It was of identical size and shape to the first, but of quite different plumage. The upperparts resembled those of the first bird, except that the crown, face and upper mantle were brownish-grey, this colour merging into that of the lower mantle. The underparts, however, were almost entirely clear, uniform white; the only colour was a little pale yel-

low on the under tail coverts and thighs and, again, a green wash on the flanks.

The two birds were watched as they moved together through the trees, keeping to the middle levels. They flew heavily, the wings making a loud flapping noise, from one large branch to another, bouncing rapidly along the boughs after alighting. Both birds called often, uttering a loud, harsh grating *chaarr, chaarr*.

On two subsequent occasions single *M. lagdeni*, both of normal plumage, were observed. One was seen on 4 September high in a tree in valley forest at 2100 m near the Kaserasere River (1.03S, 29.45E); it too was dispatching what appeared to be a katydid by hitting it vigorously against a stout branch. Another, again at 2300 m, was moving quietly through small trees in secondary growth on a hillside just north of Ruhizha Forest Station. These sightings were respectively 1.6 and 0.7 km from the first; three sightings within a small area suggest that at least in Bwindi *M. lagdeni* may not be as scarce as has been supposed (Britton 1980); it is also encouraging that the birds appear to be utilizing even areas where the forest has undergone considerable disturbance.

DISCUSSION

The colouration of the second bird seen is interesting. The crown and face accord with Chapin's description of juvenile plumage (Chapin 1954). However, the beak was black, not grey-brown as in juveniles. Chapin (1954) does not clearly describe the colour of the underparts in young birds, but Lippens & Wille (1976) remark that they have "white spots on the throat and belly, and have the breast grey-white, later marked with horizontal bars", quite unlike the uniform white of the bird observed. The colours of the bill and underparts indicate that the bird was not a juvenile but an adult with unusual plumage.

Plumage polymorphism is a well known phenomenon in *Malaconotus*, and has been documented and discussed by Moreau & Southern (1958) and Hall, Moreau & Galbraith (1966). The latter authors divide the members of the genus dealt with into two groups, one of large species (the Uluguru Bush Shrike *M. alius*, Grey-headed Bush Shrike *M. blanchoti*, Fiery-breasted Bush Shrike *M. cruentus*, Green-breasted Bush Shrike *M. gladiator*, and Lagden's Bush Shrike) and one of small species (Many-coloured Bush Shrike *M. multicolor*, Black-fronted Bush Shrike *M. nigrifrons*, Olive Bush Shrike *M. olivaceus*, and Sulphur-breasted Bush Shrike *M. sulfureopectus*). Plumage polymorphism is known only in certain populations of species in the 'small' group, where the predominant morphs in a particular area appear to parallel the plumage of the sympatric 'large' species (Hall et al. 1966). Nonetheless, on the basis of current plumage differences between species in the 'large' group it is hypothesized that the groups arose from a common, polymorphic ancestor. Shifting selective pressures, it is supposed, have eliminated polymorphism in the 'large' group, but some populations of the 'small' species still exhibit it.

Three allelomorphous loci are required to account for the observed patterns of colouration in the genus (Hall et al. 1966): one controlling the presence or absence of ventral carotenoid, another the colour (red/yellow) of any carotene that is present, and a third the incidence of ventral eumelanin. These dimorphisms interact with polygenic variation in plumage colour. In the 'large' group the only plumage variant Hall et al. (1966) recorded was a specimen of *M. blanchoti* from Mpanda, western Tanzania, that lacked carotene anywhere in the plumage. This does not correspond with the pattern in the 'small' group, where acaratenoidal birds have normal upperparts but little or no carotene below. Such birds, occurring in all 'small' species but the non-polymorphic *M. sulfureopectus*, have buff underparts. There is geographical variation in the extent to which dilute phaeomelanin occurs in the underparts, and, coincidentally, these acaratenoidal birds are known only from populations where ventral phaeomelanin is present; it is this phaeomelanin that gives rise to the buff colour. However, the incidence of phaeomelanin is entirely irrelevant to the dimorphism in carotene distribution. An acaratenoidal bird without ventral phaeomelanin would resemble the Bwindi *M. lagdeni*, with normal carotene above (as in the yellow tips to the inner secondaries and wing coverts) but the underparts largely white. (Note that yellow on the under tail coverts is frequently observed in acaratenoidal birds: Moreau & Southern 1958.) There is no obvious parallel in other species with the brownish-grey colour on the head of the Bwindi bird, but the 'olive' phase of *M. olivaceus* (caratenoidal) also has an exceptional crown colour, in this case olive-green.

It thus appears possible that the Bwindi bird is an example of an hitherto unknown acaratenoidal morph of *M. lagdeni*, and that the basis of this dimorphism (although not its appearance) is identical to that in the small species. As Hall et al. (1966) note, residual polymorphism in some populations of the 'large' species is to be expected on their hypothesis. Confirmation of the existence of this dimorphism in *M. lagdeni* would provide strong additional evidence that the two groups of *Malaconotus* had a single common polymorphic ancestor.

ACKNOWLEDGEMENTS

These observations were made during the Cambridge Bwindi Forest Study Group's expedition to the forest in 1984. I thank the Ugandan Forest Department and National Research Council for research permission, and the sponsors of the expedition for making it possible for us to go to Uganda. *Malaconotus lagdeni* was identified with the aid of field glasses generously donated by Longmans U.K. Limited. My sincere thanks to the many people who helped us in various ways, and in particular to D.E. Pomeroy and D. Tukahabwa. I am grateful to P.B. Taylor for his comments on a draft of this note.

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Threatened birds of Africa and related islands. The ICBP/IUCN Red Data Book, Part 1 (3rd Edition) by N.J. Collar and S.N. Stuart. Pp. xxxiv + 761 and 12 colour plates by Norman Arlott; 160 x 240 mm, case bound; ISBN 2 88032 604 4. Cambridge: ICBP and IUCN, 1985. Price £24 (free mailing) from ICBP. In East Africa from D.A. Turner, ICBP, Box 48019, Nairobi - £24, US\$30 or KShs. 500/-, postage free.

By its very definition, this is a depressing book, but nevertheless one which has been written with great scholarship and has been beautifully produced and printed. People interested in African birds and their conservation will want to own a copy, not just for reference but for dipping into frequently.

After a thirty-page introduction the main part of the book sets out, species by species, to review the 172 threatened ones. The authors use the International Union for Conservation of Nature and Natural Resources' (IUCN) categories of threat: Extinct (not seen in the last fifty years, i.e. may not be extinct), Endangered, Vulnerable, Indeterminate, Rare and Insufficiently Known. Over a hundred other species which warrant concern for their survival are treated in appendices.

The length of text devoted to each species varies greatly, depending on the amount known about the bird and the extent of its geographical range. Thus a species such as *Turdus kibalensis*, as far as is known restricted to one forest, receives less than two pages whereas the very wide-ranging *Geronticus eremita* has 35. Each species' account is treated uniformly, and very clearly set out. The main heading includes the bird's taxonomic position and the IUCN category of threat; there follow eight sub-headings including those covering distribution, population, ecology, threats, conservation measures (proposed and taken) and an extremely thorough and up-to-date list of references. The authors have done a superb job in producing what amounts to a set of species' monographs, each of which gives a sound basis for future study and conservation planning. Norman Arlott's twelve full-page colour plates are very fine and add to the value of the book, being of species rarely, if ever, figured before.

The two-page Foreword by the ICBP director Christoph Imboden and the authors' Introduction treat the subject of conservation in Africa succinctly and with deep understanding. In most cases it is not a question of trying to preserve a species *per se*, but of preserving a habitat - often very small in area and often forest in type. Thus habitat preservation is, in most case, the lesson to get across to the people responsible for conservation in Africa. Although the frightening human population growth of most African countries is often thought of as the reason for forest destruction, in many cases this is not so. The real reason is that there is a market for the timber the forest produces; people are willing to pay, so the forest disappears.

There can be little hope for the survival of many of the birds in this book until the people of Africa themselves value the habitats in which the birds are found. The problem of bird conservation in Africa

is not similar to that of the conservation of large mammals and carnivores. The endangered birds are not threatening man, nor are they being killed by man. They are just unfortunate in living in habitats that man seems bent on destroying.

Proceedings of the Fifth Pan African Ornithological Congress, John Ledger (ed.). Pp. 885, 165 x 240 mm, thread-sewn, soft back. Johannesburg: SAOS for the 5th PAOC Organizing Committee, 1984; ISBN 0 620 05057 8. Price US\$45 or £25 (including postage) from SAOS, Box 87234, Houghton, Johannesburg, 2041 South Africa.

This long-awaited book presents the 57 papers delivered at the Malawi Congress plus some thirty pages of preliminary matter. The text has been set on a typewriter (like *Scopus* but with less reduction) and printed on very good quality paper (hence its weight (mass) of over 1½ kg).

Papers with a bearing on eastern Africa are: Brown & Pomeroy - age structure of population, Hanmer - *Ploceus xanthopterus* and Pycnonotidae (two papers), Pomeroy & Muringo - semi-arid bird populations, Dowsett-Lemaire & Dowsett - montane birds, Backhurst & Pearson - Ngulia migration timing, Gichuki - granivorous birds in eastern Kenya, Meadows - dabbling ducks in Kenya, Britton, Stuart & Turner - East African endangered birds, Short & Horne - duetting in ground barbets, Brown & Brown - food supply/breeding seasons, Colebrook-Robjent - breeding of *Chrysococcyx caprius*, Colias - *Pseudonigrita arnaudi* social behaviour, Urban - *Pelecanus onocrotalus* breeding, and Sumba & Pomeroy - sibling aggression in *Haliaeetus vocifer*.

The *Proceedings* are a must for all those interested in African ornithology.

(Reviews by G.C. Backhurst)

NOTICE

Check-list of the birds of Uganda: this A5-sized list, uniform with those published by the OSC for Kenya and Tanzania, has been compiled by Drs Margaret Carswell and Derek Pomeroy. It is available from the East African Natural History Society office at the National Museum in Nairobi for KShs. 20/- to personal callers. Those wishing to order by mail should write to D.A. Turner, Box 48019, Nairobi, Kenya mentioning whether they want air or surface delivery; details will be sent to them.

The second edition of the *Check-list of the birds of Kenya* mentioned in the last issue of *Scopus* (9: 1) has been slightly delayed; however, it should be published by the end of the year or in early January 1986.

Any reference cited should be listed at the end of the contribution following the form used in this issue. Names of periodicals must be given in full and, in the case of books, the town of publication and the publisher should be given. A number of works, which are cited frequently, should not be listed under 'References'; the name(s) of the author(s) and date(s) of publication should be given in the text in the normal way.

All contributions, which will be acknowledged, should be sent to the Editor, G.C. Backhurst, Box 24702, Nairobi.

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EAST AFRICAN BIRD REPORT

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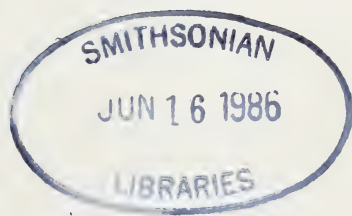
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NOTES ON SOME BIRDS OF THE ARABUKO-SOKOKE FOREST

L.L. Short and J.F.M. Horne

From 8 December 1984 to 2 January 1985 we studied honeyguides, barbets and woodpeckers in the *Afzelia-Brachystegia* and, mainly the *Brachystegia* woodland area for some $6\frac{1}{2}$ km along the track bordering the south side of the Nature Reserve in the Arabuko-Sokoke Forest (see Britton & Zimmerman 1979, and Kelsey & Langton 1984, for description and map). We set the locality as 11-18 km WSW of Gedi at 0:18S, 39:55E. While there we observed, as our research permitted, other birds of this unique and threatened forest. We report new observations or unusual behaviour of 13 species. Most of these observations took place along the track or near the Nature Reserve's southern boundary track at 3-5 km in from the entrance. We tape-recorded many of the species reported here, but vocal analyses will appear elsewhere.

Southern Banded Snake Eagle *Circaetus fasciolatus*

At 10:15 to 10:45 on 13 December we heard a low, regular series of sounds overhead, and observed a Southern Banded Snake Eagle very high above, soaring in regular circles we judged to be 1 km in diameter. No visual displays other than the soaring were noted. Its call, repeated about every 5-10 s as the bird soared was a *ka-ka-ka-ka-KAW*, recorded on tape. According to Brown et al. (1982: 345) the species voice is not recorded on tape, although they well render it verbally. Again at 09:58 on 14th, presumably the same bird soared and called for 20 min overhead, the notes rendered *ka-ka-ka-ka-KA-OH* and *ka-ka-ka-ka-KAAA*. We did not observe it again until we heard it calling similarly overhead at 09:45 on 2 January. Brown & Amadon (1968) assume the crowing call given in soaring flight is related to breeding (nuptial flights), which may be the case.

Bateleur *Terathopius ecaudatus*

Bateleurs occasionally appeared over the *Brachystegia-Afzelia* area of the forest where we were conducting our honeyguide and barbet studies. At 11:00 on 13 December, over the trees to the north of the track, we saw a male Bateleur flying strangely, its long wings beating far upward and downward in apparently heavy, laboured flight quite in contrast to its normal soaring flight. As it crossed above an open area between trees it momentarily switched to the typical

The authors would have preferred to depart from the following *Birds of East Africa* English names (their preference in brackets): Chestnut-fronted Helmet Shrike and Retz's Helmet Shrike (Helmet-shrike), Drongo (African Drongo) and Indian House Crow (House Crow). Dr Short will make a case for these and other deviations with G.S. Keith (in prep).
Ed.

soaring flight, then peculiarly flew in two tight (diameter 300-400m) circles, mixing its flight every few seconds from normal soaring to wings beating downward and outward, as if braking; at all times its yellow-orange legs dangled beneath it. Quick reversals of these two patterns occurred, giving a 'jerky' circular pattern of flight at perhaps 30 m above the trees. At times the 'braking' action was so pronounced that the bird's head, raised during the beating-wing portion of the display flight, was far back and the dangling legs actually were out in front of the bird's head, the wings fluttering. The only described display somewhat resembling this is an aggressive up-down stretching of a bird while perched (Brown 1955). Repeated *ka-ka-ka* calls were uttered during the circular flights. Normal soaring took the bird perhaps 40 m along its path, then as if being reined back, its head would go up and back, it called, the legs were thrust forward, and the wings rapidly beat up and down. We saw the bird through gaps in the trees on the north horizon; it made at least two full circles, probably more, over 10 min, and some 30 of the 'braking' portions of the flight display were well observed. No female was noted, but she may have been perched, or elsewhere about the male, for a pair flew over us from the north to the east (towards the *Afzelia* forest) the next day (14 December). In any case, we observed the male well enough to be certain that he was not directly engaged in a mutual display, for he did not dive and no female appeared. The display usually ascribed to them (see Brown & Amadon 1968) has the female turning on her back in flight and presenting her claws upward to his.

We saw and heard the same or another male performing the display flight just described between 11:20 and 11:28 on 30 December. This form of display flight to our knowledge has not been described before (e.g. Brown & Amadon 1968, Brown et al. 1982).

Ring-necked Dove *Streptopelia capicola*

A display of this widespread dove was observed closely on 28 December. A presumed male perched near us had been singing regularly. Suddenly the singer flew up simultaneously accompanied by its presumed mate, who flew from an adjacent tree. Both flew parallel and upward some 10-12 m, then each flew in a circle in the opposite direction, one to the right, the other to the left, their flight a floating, soaring display with wings outstretched; both then completed their circle parallel to one another, and they dropped together to perch side by side on a dead branch. The male landed with feathers puffed out and commenced bowing to the (apparent) female, giving a series of soft huffy *coo-coo-oo-oo* notes before her, as she crouched beside him with plumage appressed. She then flew away, the presumed male following her closely. Such a mutual display of two birds in flight was not mentioned by Goodwin (1970), nor can we find any reference to it elsewhere.

Thick-billed Cuckoo *Pachycoccyx audeberti*

Occasionally this cuckoo flew over us in display flight, wings flapping or in soaring flight as it is called (voice recorded); we

sometimes heard it calling at a distance. These display flights occurred throughout December, at which time Chestnut-fronted Helmet Shrikes *Prionops scopifrons*, a likely host, and probably Retz's Helmet Shrike *P. retzii*, definitely a host (Vernon 1985), were beginning to breed. On 20 December at 10:25 we observed an apparent pair flying parallel to one another in a wide circling pattern over the treetops; only one bird was uttering the characteristic whistled *phwee-eee-bit*, *phwee-eee-bit* call (in series of 1-10, at 4 sets per 5 s) as we recorded the voice on tape. These were much faster than the one per 3 s *were-wick* calls of Vernon's birds (1985: 831). Previously we had heard and seen the single bird's display flight in approximately the same area during July 1982. We did not observe the group displays reported by Vernon (1985) in Zimbabwe, but the solo and duo flights are similar to those he described. Brown & Britton (1980: 63) give a November oviduct egg date from the Tana River, and the birds we observed were likely breeding.

Böhm's Spinetail *Neafrapus boehmi*

We tape-recorded voices of these spinetails as they flew in groups of three to six over the *Brachystegia* woodland. As we conducted our primary studies we noticed that their calls and activity centred over a semi-open area about 60 m in diameter to the north of the Nature Reserve boundary track. They seemed to display, flying fast, then floating in twos and threes over this area, uttering chittering calls. At 10:20 on 26 December, while we looked carefully at a nearly dead (one branch bore leaves) *Brachystegia spiciformis*, Short decided to scratch its bark; then out of a chimney-like hole 3½ m up, between the two main forks of the tree flew a Böhm's Spinetail. What it was doing in the hole we do not know, but of course we suspected nesting. At 10:32 a group of six spinetails circled low over the same tree, dipping down, 'buzzing' it in twos and threes, and twittering. None went into the tree. Later that day we watched the area over the tree to see if they would enter it. At 16:56 a group of three flew low over the area, twittering as they shifted from their slow-appearing normal flight to a spread dihedral, fluttering, then speeding up as they zoomed over the tree. At such times the two uttered their chittering *byddyew-tyew*, or *zew-tew*, *tyew-tyew* notes. We saw them again at 17:05, 17:25 and 18:16; at 18:16 Mottle-throated Spinetails *Telecanthura ussheri* and Palm Swifts *Cypsiurus parvus* were also flying higher overhead. At 18:33 the spinetails bulleted very low past the hole in the tree. At 18:38, in the gathering darkness four twittered in a circle overhead. Finally, at 18:48 we heard them above and they dived, at least one going straight down into the hole. Hence the cavity at least was used for roosting. We continued to see them daily, trying again on 28 December to descry their roosting. Although a group appeared over the tree at 18:30, none entered the hole that night.

On 30 December we watched at the tree from 07:45. The spinetails called and circled it at 08:05, then at 09:05, at 09:10 to 09:14, and at 09:21. The birds now were zooming by the hole in dropping

flight from east to west, first one, then a pair down, then up again, twittering all the while. This was repeated at 09:25. Later, at 14:04, we observed a large monitor lizard put its head out of the hole, then duck back down inside. We do not know if it had been there before this day.

On 31 December we brought a ladder to examine the hole in the tree. The large opening into the centre of the tree was 28 cm across, and a small (10 cm) opening was located a metre below. The monitor lizard was not inside. The cavity proved to be a complete hollow, with just an outer shell, from the base of the tree, at which it was perhaps 45 cm across, up through both branches, one of which ended in a broken stub with a 10-cm hole - this branch was entirely hollow, and too small for the lizard to enter. We found no signs of nests in the main hollow trunk, but the configuration of the opening and branches prevented us from looking up the hollow branches, which the swifts, once entering the main opening, could safely have used.

On 1 January we watched at the hole until 19:00, from a hide close to the tree. Although the spinetails 'buzzed' the tree at 18:15 and 18:33, none was seen to enter, but a bat left the hole at 18:50. The next day (2 January) the spinetails actively swirled around the tree, which was the only place in the area where we saw them descend so low, and gave their twittering calls at 09:27-09:30, 09:45, 10:00 and noon.

There were other trees, particularly *Brachystegia spiciformis*, that had large holes in the trunk where branches had broken off, and the wood had rotted away. We think it likely that such natural holes and not man-made wells and mine shafts (in which they are known to nest (Maclean 1985), but which do not occur, nor did they ever occur, throughout the range of *N. boehmi*) will prove to be the usual nesting and roosting situation of these spinetails. Maclean (1985: 369) noted that nests have been found in baobab hollows, as well as in wells and mine shafts. Brown & Britton (1980: 68) mention a record accepted "with some reserve" from A.D. Forbes-Watson of three young in "an underground chamber at Sokoke", in late January-early February (year unknown).

Striped Kingfisher *Halcyon chelicuti* and Brown-hooded Kingfisher *H. albiventris*

Both species were calling and 'duetting' during December. We observed frequent interactions between them. The distribution of the singing birds and their points of interaction suggest that their territories are largely or entirely overlapping. The possibility that they may maintain interspecific territories needs study. Most chases followed an approach by one or two of the smaller *chelicuti* to a calling, larger *albiventris*, e.g. at 09:21 on 3 December. Some vocal portions of these interactions were recorded on tape.

Chestnut-fronted Helmet Shrike *Prionops scopifrons*

This helmet shrike was observed more frequently than Retz's Helmet Shrike and was dominant to the latter in encounters when groups met.

Groups of *scopifrons* contained 4-12 individuals, but the nesting activity we observed did not involve more than four birds. We frequently noted individuals carrying fibrous nesting material at different sites during December. On 27 December we discovered a nest under construction by some members of a 10-bird group. The nest was situated in the lower canopy (height about 18 m) of a 25 m *Brachystegia spiciformis* on a horizontal branch 3.5 cm thick, 12 cm beyond a fork, and consisted at the time of a 1½-cm cup of fibres and lichens. The site was at a slight bump or rise on the branchlet, into which the nest appeared to merge. At least two birds carried materials, but other individuals (one or two) accompanied them to the site, where all but one of the four moulded the nest, entering the nest one by one (usually after bowing and wing-spreading in front of it), inserting the material, if any, that it had carried to the nest, sitting with appressed tail and spread body feathers, wings flitting, then turning in a full circle, pressing fully, 'tamping down' the nest and any pieces they had put into it. Over the next several days we saw three and four birds carry material (fibres, bits of lichen, moss) to the nest site. One of the four was attacked twice by another individual, and it was prevented from getting into the nest. All the birds that came to the nest waited until all three had taken their turns before they flew off as a group. The intervals between visits varied from 15 min to 2 h. By 30 December the nest was 3 cm high, with construction occurring irregularly. For the first time we saw spider webs carried to and incorporated into the nest, which Maclean (1985: 665) describes as a 'shallow cup' of plant fibres, felted with spider 'web'. Low calls were often heard, and two individuals particularly displayed, bowing to one another with material in their bills, before going one by one to the nest. Later, 20 m from the nest tree, as the entire group fed low in bushes and a dead, fallen tree, two helmet shrikes bowed, spreading their head feathers to one another, then one courtship-fed the other. Among three birds of a different group seen on 22 December, one solicited almost continuously, and another attempted to copulate with it.

In other groups seen in the area we noted spider webs and mosses being carried. One group of nine individuals was observed for one hour, and we saw one individual constantly soliciting, crouching, calling *eeek* notes, and wing-spreading, all in front of another, which it appeared to follow (the soliciting bird was an adult by plumage, eye and other soft part colours). For 10 min the soliciting helmet shrike waved its wings in a circle to each side in the manner of a displaying, singing male European Starling *Sturnus vulgaris*.

When last seen on 2 January the nest described above was about 4 cm high, and four birds continued to carry moss and spider webs to it in a group at about once per hour. Britton & Britton (1977) described a nest built of grasses and thin bark, as well as cobwebs, the dimensions of which (62 mm x 65 mm in diameter, 24 mm high inside the cup) suggest that the nest we describe was nearly completed on 2 January. The three nests they mention from Arabuko-Sokoke Forest all were lower than 9 m and in forks of *Brachystegia*

spiciformis. They fully described the eggs of this helmet shrike that Maclean (1985) notes as unknown. Britton & Britton (1977) and Brown & Britton (1980: 97) indicate breeding from January to July, with a peak in April. The numerous indications we had of breeding activity in December-January suggest that the peak in some years falls before the main rains, in January to March.

We tape-recorded diverse vocalizations and audible bill-snapping of both species of helmet shrikes, which have a generally similar repertory. One difference is that *scopifrons* utters a buzzy trill resembling the aggressive trill of Lesser Honeyguides *Indicator minor* not heard from *retzii*. This common call is grating, and nasal a *bddddd*, *bddddd*, *dddddt* - uttered repeatedly. Bill snaps often accompany *tsee-zzee-zzeee-eep* calls, or end them, as *zzee-tsip-ip* (snap), in a gun-like burst. There is a whistled, clear *fyew-dyew-dew* song, as well as alarm calls, and complex low notes.

Behaviourally *scopifrons* is more aggressive, less shy, flycatches to a greater extent, and more often forages low in bushes, even to the ground. Several times we saw *scopifrons* flycatch while hovering for up to 30 s before tree blossoms. On 26 December, as a group of *scopifrons* fed along with a Black-headed Oriole *Oriolus larvatus* on caterpillars in a caterpillar-infested tree, one of the helmet shrikes hovered 25 s beneath a leaf frond from which it pulled out a 4-cm black and white hairy caterpillar. The dominance of *scopifrons* to *retzii* is shown by playback. When we played either *retzii* or *scopifrons* calls, *scopifrons* usually approached us; whenever both were nearby and *retzii* did respond first, several birds approaching to bow and display at us, they were supplanted and gave way to incoming *scopifrons*; and whenever both species approached initially, *scopifrons* stayed and *retzii* quickly disappeared.

Retz's Helmet Shrike *Prionops retzii*

Although we have discussed both helmet shrikes above in comparing them, we did work extensively with *P. retzii*, either where there happened to be no *P. scopifrons* about, or, using playback, after *scopifrons* habituated and drifted away. We found that Retz's Helmet Shrikes actually were more responsive to playback when they could respond freely in the absence of *scopifrons*, often uttering whistled series of notes as they approached us. These notes, a *tweeoooh-tweew*, are oriole-like in quality and clearer than the similar call of *P. scopifrons*. At times four to five *retzii* flew to us, and displayed in response to our playback. This display is a deep bow with crest very erect, and anterior body feathers generally fluffed out, the wings held slightly out from the body; the slow bow is followed by a slow raising of the head nearly to a vertical position, the bill pointing skyward. The bowing usually occurred two or three times in succession. Sometimes the incoming helmet shrikes approached us in display flight, singing (song noted above, or a blasting *tyeeeeow*, *tyeeeee-owp*), with crest erect and anterior body feathers fluffed, making a cowl-like effect above the upper back - with the wings set the bird then has somewhat the

appearance of the front end of a Boeing 747. On 2 January one *retzii* sang and displayed to us for over 10 min.

Vocalizations other than songs and bill snaps that were tape-recorded include a version of the song with nasal long notes, a *tyew-tyow-dyeeew-dyeeew*, and one with a grating ending *tyao-tyow-tyeeddddaa; tyeeddddaa; tyeeddddaa*. Sometimes the song-like whistles follow somewhat buzzy notes, a *tzzeee-tzzeee-tzzeee-tyew tyow* or a *pyee-er-eep, pyee-er-eep, pyee-er-eep-tyewlytyow*. All of these are fast, rapid-fire calls or songs. Softer notes also were obtained as recordings.

Drongo *Dicrurus adsimilis*

We report a nesting of this common bird in the Bamburi Hotel garden because the nest (found by the Ian Husband family) was 1 m from the tip of the branch of a leafless baobab tree, near its top at 12 m or so up. The nest contained two young when first seen on 16 December, and was woven of fine fibres and grasses. The parents fed the young regularly each day, often pausing to attack and drive away Indian House Crows *Corvus splendens* that are such a plague along the coast. The young fledged on 24 December, and were fed thereafter about the garden at least through 29 December. Brown & Britton (1980: 79) cite breeding records for the coast in April and May, and November to January.

Eastern Bearded Scrub Robin *Cercotrichas quadrivirgata*

On 28 December we spied one of these birds flying upward from dense undergrowth to a high perch in a tree; it then went into a hole at the tip of a dead stub 18 m above the ground in the sub-canopy of an unidentified 32-m high tree. We watched them during subsequent visits and established that a pair were feeding insects to young in a hole at a rate of 2.5 feedings per hour (10 times, 4 hours, about every 20-30 minutes). On 28 December, we saw feedings, for example at 17:17, 17:24 and 17:48 between 17:00 and 18:00. No nest was visible but the feeding bird entered to the point at which only the tip of its tail could be seen from below. The route taken to feed the young varied; at times the parent flew directly upward to a perch conveniently located at the level of, and 3 m from the hole; at other times it would ascend in four or five stages over 3-4 min to the same perch before the hole. About 20 s was spent feeding the young before the adult left the nest, usually flying directly into the undergrowth, but at times descending first to one or two intermediate perches. Frequently the adults carried faecal material when leaving the nest, which they dropped as they flew downward. We observed feeding on 29, 30 and 31 December, but by 2 January the unknown number of young either had fledged or were missing, as the adults were not seen to approach the cavity. The male sang periodically nearby, and was singing (voice recorded) on 2 January, our last day. The high site of the nest is unusual, especially for a bird of the ground and undergrowth, and more observations on arboreal nests of this species would be useful.

Brown & Britton (1980: 85) noted December and January breeding records, and stated that this "dry season breeding is especially unexpected"; yet it rained in Arabuko-Sokoke Forest at least every other day during our December to early January stay, so 'dry' is a relative expression for this area.

Black-breasted Glossy Starling *Lamprotornis corruscus*

This species was observed in flocks of six to 300-400 birds, but were usually in small flocks in flight over the *Brachystegia* woods. In some fruiting trees and berry-bearing bushes 10-20 gathered to feed. Only once did we see any perched within 60 m of one of the two Blue-eared Glossy Starling *L. chalybeus* nests. We wondered if wood-gathering by man had so opened the woods as to permit *L. chalybeus* to enter and partly displace *L. corruscus*, but it might be that the latter were not nesting at the time of our visit, and hence were largely elsewhere. The one very large flock fed making a terrific din in two large fruiting trees at the west end of the track, accompanied by drongos, and by both helmet shrikes that probably were taking insects caused to fly by the movements of the starlings. On 26 December, three of these starlings from a group of seven dropped from flight to a tree and there, with feathers ruffled, they displayed, dipping their bills and giving low calls, a *hyeeh* note and a series *eh-eh*, *eh-eh-eh*.

Blue-eared Glossy Starling *Lamprotornis chalybeus*

We found these starlings scattered in pairs in more open parts of the *Brachystegia* woods, in areas where Black-breasted Glossy Starlings occurred only in passing flocks. The Blue-eared's characteristic *nyeee-yeh* call was often heard. Two nests were found. The first was 6 m up a 7-m dead tree stub, at the broken end of one tip, beneath which was an old hole (possibly woodpecker or barbet) in which the nest was situated. On 15 December we observed the pair coming to the nest together, sometimes one at other times both, with food, apparently all insects. Only occasionally did one bird arrive at the nest alone, and then the other invariably arrived soon after. When both simultaneously arrived bearing food, one gave way to the other. They sporadically carried food to the nest (about twice an hour on the average, but sometimes every 5-10 min). The food taken to the young was obtained in small, berry-bearing bushes, on the ground within 50 m of the nest, and by flycatching from nearby trees. On 28 and 29 December we saw adults carry berries several times to the nest, but on 30 December the nest was empty. Calls suggest that there were only two young, and the presence of one or occasionally two birds to 2 January within 100 m of the nest left us uncertain as to the fate of the young.

On 30 December, about 100 m east of the first nest, we spied a second pair, also feeding young, in a dead stub of a *Brachystegia spiciformis*. The stub was 2 m long, about 33 cm thick, and at 13 m above ground in a 22-m high tree. Originally the hole, under the tip of the stub, was probably that of a woodpecker or barbet. The

food carried was insects. Young were fed until 2 January, the adults mainly finding food in the immediate vicinity of the nest. This pair inspected our honeycomb pieces put out for attracting honeyguides. When feeding the young both went to the nest, one remaining outside while the other fed them. We could not determine the number of young starlings in the nest.

This starling may be spreading as a result of opening of forests and woodlands, as Britton (1980) gives its range as north only to Tsavo East and Kilifi. Brown & Britton (1980) give no coastal breeding records, although indicating breeding elsewhere during the rains.

Clarke's Weaver

Any observations of this little-known weaver are worthy of note, especially outside the August-September period when it is most frequently seen (Britton 1980). At 10:50 on 31 December we were studying honeyguides in the centre of the *Brachystegia* area (with mixed *Afzelia cuanensis*) along the Nature Reserve south track, when our attention was attracted by a constant noise sounding like mobbing calls of small birds. After about 8 min of this 'disturbance' Short broke from the studies to go 80 m southeast, seeking the cause of the noise. As he approached a fruiting small tree some 6 m high he noted several *Prionops scopifrons* and *P. retzii*, two East Coast Batis *Batis soror*, two *Dicrurus adsimilis*, about four Common Bulbuls *Pycnonotus barbatus* and one Little Yellow Flycatcher *Erythrocerus holochlorus*, all but the bulbuls flycatching about that tree, which contained an estimated 125 Clarke's Weavers. The noise came from the weavers, an insistent *sss, sss, sss*. The weavers fed upon fruits of the tree, although some 20 more were perched in neighbouring trees. The other species appeared not to be with the weavers in a mixed species flock, but rather seemed to be using the noise and movements of the weavers to obtain insects flushed by the weavers (except the bulbuls that were merely feeding on the same fruits). As Short drew near, the weavers began to fly in groups of 5-12, gradually at first, then they swarmed into two nearby *Brachystegia spiciformis* trees, in which two Brown-capped Weavers *Ploceus insignis* were feeding. The bursting flight of the Clarke's Weavers was almost quelea-like. Observations took place from 10:55 to 11:04, at which time the weavers flew in a dense flock to the south. We combed the area for the next two days during the two hour period around 11:00, but did not see them again.

The flock appeared to contain about equal numbers of both sexes (see Taylor 1984 for sexual differences), although about 25 of the males appeared subadult, in greenish brown and yellowish plumage with patchy black head markings and traces of a superciliary stripe.

These observations suggest that care should be taken in reporting Clarke's Weavers in mixed species foraging flocks (Turner 1977, Britton et al. 1985), as Kelsey & Langton (1984) saw them only in flocks of conspecifics. Other birds may take advantage of the

presence of a mass of birds without association in a true flocking sense. The report of four of these weavers on 31 December (EANHS/OSC 1984) accords with our observations of larger numbers on the same date and almost certainly indicates presence of the birds in the forest during at least early January. Records from the Arabuko-Sokoke Forest are lacking from 1 January to 2 April (Kelsey & Langton 1984, Taylor 1984). Taylor suggested the January to March period as the likely breeding time, and they have been suggested as breeding elsewhere. We feel that it is likely that some breeding occurs in the July to September period (Kelsey & Langton 1984), as well as in January to March, and that the species probably breeds in or very near the Arabuko-Sokoke Forest. We are confident that records will be forthcoming for presence of the species in the forest during January to March. Of course all observers privileged to visit the forest should seek it at all times of year, for our knowledge of Clarke's Weaver is meagre indeed.

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THE WHITE-CHESTED ALETHE
ALETHE FUELLEBORNI IN TANZANIA

F.P. Jensen, S. Brogger-Jensen and G. Petersen

Although the White-chested Alethe *Alethe fuelleborni* is a common inhabitant of most of the montane forests in eastern Tanzania, northern Malawi and north-eastern Zambia, comparatively little is known about its general biology. In this paper we present some new information on its distribution, subspecific limits, seasonal movements, food and feeding in Tanzania. We also give a description of the nest and eggs of this species. These observations were made during a number of visits to the forests of eastern Tanzania between 1980 and 1984.

DISTRIBUTION

The White-chested Alethe occurs in the forests of eastern Tanzania (see Fig. 1) from the South Pare Mountains and the Usambara Mountains south to Mt Rungwe (Britton 1980, 1981). We observed this species in the Usambaras, Ulugurus, Uzungwas and on Mt Rungwe. It also occurs in the forests of northern Malawi at Usumara, Nyankhowa, the Nyika Plateau and the Misuku Hills (Benson & Benson 1977) and in adjacent Zambia on the Nyika Plateau (Benson *et al.* 1977). An isolated subspecies, *xuthura*, has been reported from a coastal forest near Sofala (formerly Beira) in southern Mozambique and from the nearby Gorongosa Mountain (Clancey & Lawson 1969).

The White-chested Alethe has generally been considered a resident of montane forests (Hall & Moreau 1970, Benson *et al.* 1971, Britton 1980) with an altitudinal range in Tanzania from 900 to 2600 m (Britton 1980), in Zambia between 1800 and 2100 m (Benson 1971) and in Malawi from 1830 to 2200 m (Benson & Benson 1977). Records of the species at 1380 m in the Misuku Hills in Malawi in August, however, were thought to indicate some downward, off-season movement (Benson & Benson 1977). The birds found in coastal forests in Mozambique in June might have been migrants from Gorongosa Mountain. In recent years there have also been a number of low altitude records of White-chested Alethes from Tanzania. In the East Usambaras it is resident down to 500 m (S.N. Stuart, pers. comm.). In the Kimboza Forest in the eastern foothills of the Uluguru Mountains it has been recorded at 250-300 m in June and July (Stuart & Jensen in press) and in the Mwanihana Forest on the north-eastern escarpment of the Uzungwa Mountains it is common down to 400 m in August (pers. obs.). In Magombera Forest, at 300 m to the east of Mwanihana Forest, it has been recorded in September (S.N. Stuart, pers. comm.) and in the Chita Forest in the southern part of the Uzungwa escarpment it was found to be common and breeding (see below) at 750 m in October and November.

It is clear that in Tanzania this species is not restricted to montane forests but occurs at intermediate altitudes in certain

localities down to 500-750 m throughout the year. The records from below 500 m, however, are all from the cold season between May and August and its occurrence at these altitudes is therefore probably seasonal. This hypothesis is supported by the apparent lack of White-chested Alethes in the Kimboza Forest when mist-netting was conducted at this site at the end of November 1984 (pers. obs.).

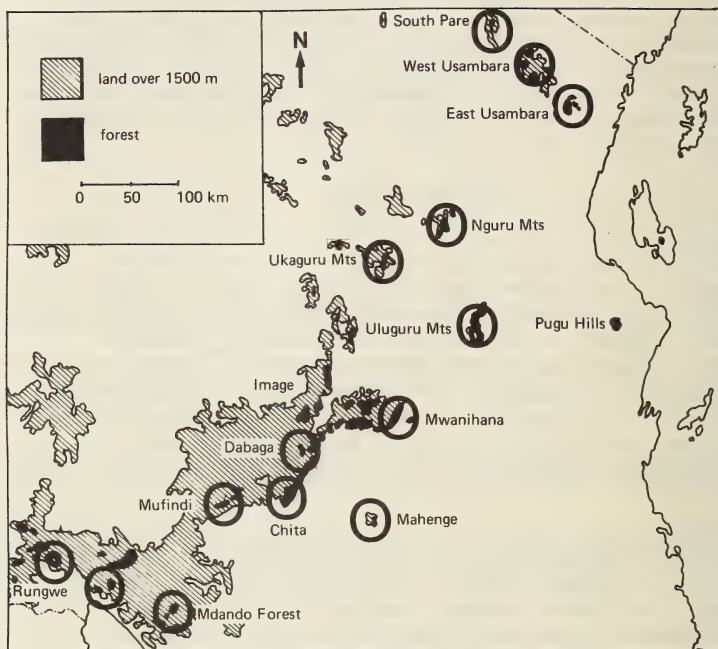


Fig. 1. The distribution of the White-chested Alethe in Tanzania. Note that the Uzungwa Mountains comprise the area from Image, east to Mwanihana, south to Chita and Mufindi.

SUBSPECIATION

Two subspecies are known from Tanzania. The nominate race was described from southern Tanzania between the Poroto Mountains and Tandala by Reichenow (1900). Reichenow (1905) described *usambarae* from the West Usambara Mountains. Britton (1980) gives the range of the nominate race in Tanzania as Mt Rungwe, the Poroto and Livingstone Mountains. This form also occurs in Malawi and Zambia. All other populations of the White-chested Alethe in Tanzania are usually referred to *usambarae* (Ripley & Heinrich 1969, Britton 1980).

Reichenow (1905) in his description of *usambarae*, stated that it is separable from the nominate form by its more olivaceous, less

brown mantle. Clancey & Lawson (1969) and Ripley & Heinrich (1969) also noted the nominate race has greyish apical margins to the chest and breast feathers, giving a scaly appearance, in contrast to the almost pure white underside of *usambarae*. Clancey & Lawson (1969) give wing lengths of 102-108 mm for the nominate race and 112-120 mm for *usambarae*.

Our examination of a large number of museum specimens and living birds from many localities in both Tanzania and northern Malawi has revealed a more complex situation than that previously described. With regard to the colour of the mantle and back, we found that in birds from the Njombe-Mt Rungwe area and northern Malawi (i.e. the nominate race) brown seems to predominate while most birds from the Uzungwas, Ulugurus and Usambaras tend to be more olivaceous. However, in several populations, especially *usambarae*, we found a large amount of individual variation in mantle and back colour. This is, therefore, an unreliable character for separating the two subspecies.

We have attempted to verify that the two subspecies can be separated on the wing length. We obtained figures of 110-115 mm (n = 17) for the nominate race (*contra* 102-108 mm given by Clancey & Lawson (1969)) and 102-120 mm (n = 129) for *usambarae* (*contra* 112-120 mm given by Clancey & Lawson (1969)). There is, therefore, a large overlap in the wing length of the two subspecies. We also found that the wings of the males average 2.0 mm longer than those of the females (n = 33 males and 22 females).

In Table 1 we have given the mean wing length and weight of alethes belonging to the nominate race (birds from Njombe, Rungwe and northern Malawi) and of birds from a number of other localities in eastern Tanzania.

Table 1. *Wing lengths and weights of White-chested Alethes*

Localities	Mean wing length (mm)	Weight (g)
Usambara Mts	110.0 (n=22) (13m & 9f)	54.8 (n=13)
Uluguru Mts	110.9 (n=14) (5m & 5f, 4 unsexed)	53.6 (n= 4)
Mwanihana	110.8 (n=26) (all unsexed)	52.3 (n=24)
Dabaga	108.1 (n= 7) (6m & 1f)	49.3 (n= 7)
Chita Forest	108.9 (n=49) (all unsexed)	50.8 (n=54)
Kigogo Forest	108.0 (n=10) (all unsexed)	49.0 (n=10)
Nominate birds	106.9 (n=16) (9m & 7f)	45.3 (n=12)

m = male(s), f = female(s)

It can be seen from the table that instead of a sudden change in size, the variation is clinal and the birds tend to have longer wings and heigher weights towards the north of the range. We detected no weight difference between males and females.

The grey margins to the chest and breast feathers in nominate birds, *contra* the almost pure white underside of *usambarae* seems to be the only valid character to segregate the two subspecies. In a comparison of 38 museum specimens from Njombe, Rungwe, the Uzungwas, the Ulugurus and the Usambaras, we were able to identify the nominate birds by their scaly breasts. However, we noted some weak scaling on a few specimens from the Usambaras and Dabaga. It is, therefore, with some hesitation that we uphold the two subspecies of the White-chested Alethe in Tanzania.

BREEDING

There is only one previous breeding record from Tanzania, that of a nest in montane forest in the West Usambara Mountains on 11-12 December 1976 (Carter 1978). This nest was situated 4-5 m from the ground in a tree, but because it could not be examined closely, no detailed description of the nest was given and the eggs remained undescribed.

On 23 October 1984 we found an active nest of a White-chested Alethe in the Chita Forest in the Uzungwa Mountains. The nest site was at 750 m inside primary forest on a gentle slope about 50 m from a small stream. The forest was fairly low with the canopy at about 20 m. The understorey was open and dominated by young trees 2-4 m in height, and ground plants were almost entirely absent.

The nest was positioned on top of a stump, 1.8 m above the ground. It was made of green moss and lined with fine rootlets. The cup measured 8 cm in diameter and was 5 cm deep. The nest contained two pale green eggs with brown to dark green spots. They measured 25.5 x 18.2 mm and 26.9 x 17.7 mm.

In addition to these two records of nesting, birds in breeding condition have been collected in eastern Tanzania between October and March (Ripley & Heinrich 1969), in northern Malawi in late October (Benson & Benson 1977) and in Zambia in November (Benson *et al.* 1971). This suggests that the White-chested Alethe follows the general trend among insectivorous forest passerines by breeding during the rains.

FOOD AND FEEDING

The White-chested Alethe is usually a solitary feeder which appears to seek most, if not all of its food on the ground. The food has been given as beetles, ants and berries (Benson 1937, Mackworth-Praed & Grant 1960). Our examination of 12 stomach samples confirmed that insects, in particular beetles, constitute a large proportion of the diet. The birds also take millipedes, snails, worms and small amphibians. Ants were found in two of the samples. In one of the samples there were a few ants and some ant larvae while the other was packed with driver ants *Dorylus* sp. Like many ground-feeding forest birds, the White-chested Alethe is often seen near driver-ant swarms. It has, however, been the impression that the birds feed on the insects which try to escape

from the ants, rather than on the ants themselves (Oatley 1970, Willis & Oniki 1978, Willis 1981). In eastern Tanzania only the Red-tailed Ant Thrush *Neocossyphus rufus* is known to feed specifically on driver ants (Sclater & Moreau 1933, pers. obs.), but it appears that at least occasionally the White-chested Alethe does the same (only a very few fragments of other insects were present in this sample).

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BIRDS, INCLUDING A HYBRID, NEW TO UGANDA

J.S. Ash

Four species of birds and one hybrid, previously unrecorded in Uganda, were found whilst I was in the country from 9 February 1983 to 8 January 1984. Three of the species and the hybrid are discussed here: the fourth species is being discussed elsewhere. Numerals and upper case letters in brackets are the $\frac{1}{2} \times \frac{1}{2}$ degree square references (Turner 1981).

Common Tern *Sterna hirundo*

- a. Lutembe (0:08N, 32:39E), 25 April 1983, one adult in breeding plumage (46D).
- b. Entebbe (0:04N, 32:28E), 2 June 1983, one in 1st summer plumage (46C).

a) The first bird flew past close inshore at Lutembe, Lake Victoria during a very large movement (10 000 birds) of White-winged Black Terns *Chlidonias leucopterus*. Compared with the latter, it was judged to be half as large again, with a longer dark bill, long forked tail and white underparts showing a darker shade (off-white or pale grey) on breast. The smoky-grey border to the under-surface of the primaries was seen well and is a good character for distinguishing the species from Arctic Tern *S. paradisaea* which has a clearly delineated blacker frame to the tip. Except that it was dark, bill colour was not seen; the amount of red showing is variable in spring and it develops gradually. The breast was paler than in spring adults on the coast of Somalia; these birds are probably *S.h. tibetana*, and the Lutembe bird possibly nominate *hirundo*.

b) The second bird at Entebbe flew about for several minutes over the water close off a headland in Lake Victoria. It was in typical 1st summer plumage, with the black crown not fully developed, but clearly showing the underwing pattern of the above bird and a well-forked tail.

The species is common off the East African coast, but has only twice previously been recorded inland in Kenya (Britton 1980), in September and October.

Turtle Dove *Streptopelia turtur*

- a. Entebbe (0:04N, 32:28E), 9 October 1983, one immature (46C).
- b. " " 10 October 1983, one immature
- c. " " 15 October 1983, three immatures
- d. " " 16 October-5 November 1983, 1-2 on 6 days
- e. " " 6 November 1983, five immatures
- f. Kibimba (0:32N, 33:53E) 8 November 1983, one immature (47B).

This irruption into southern Uganda is without precedent in East Africa. The exact number of birds at Entebbe is not known, but at least seven were involved. The first (a) was quite distinct, being fearless and having pale sandy brown upperparts with clear

dark mottling or spotting over the chestnut area of the wing, and it was not seen again.

The following day another bird (b) was found about 1 km away, whilst searching for the previous day's bird with Dr M. Carswell. This was a very 'wild' and much greyer bird, with some derangement of the head feathers suggestive of an injury; it too was not seen again. After my absence for four days, there were three birds (c) on 15 October, similar in plumage to (b), and one or two probably from this same group seen often until 5 November. Then on 6 November with Dr M. Carswell and A.B. Sheldon there were five birds, all generally alike, and apparently including two new arrivals (e). There were no observations at Entebbe from 7 to 22 November, but no Turtle Doves were seen on 23 November, nor thereafter. However, an immature was found on 8 November at Kibimba, some 166 km east of Entebbe.

Except for the second bird at Entebbe, which was very unapproachable, all the others were fearless and often permitted approach to within 10 m as they fed on the ground. Mostly they fed in cultivated patches, especially among cassava plants which were thick with weeds, but often flew into large trees to rest and preen. They became particularly associated with one area around a group of inhabited huts where they often joined a group of free-ranging poultry. The Kibimba bird, however, fed on open tracks in an irrigated rice scheme and was far away from any cover.

Generally they did not consort with other species of birds. The Red-eyed Dove *S. semitorquata* is the only other dove at Entebbe, and although the Turtle Doves often fed close to them, only the second one (b) tenaciously held company with one. The Kibimba bird similarly was associated closely with a Ring-necked Dove *S. capicola*.

These Ugandan localities are far to the south of most earlier records, but it is of interest that at the same time one was found even further south on 22 (23) October at Amboseli (2:30S, 37:00E) Kenya by Dr D.J. Pearson (*in litt.*, 26.10.83). Taken together these observations suggest that there may have been an unusual widespread small-scale irruption of the species into eastern Africa in 1983. It is unquestionably rare in East Africa from where there are only two previous known occurrences at Barsaloi (1:20N, 36:52E), N. Kenya, 16-19 October 1976 (Britton 1980); Samburu Lodge (0:40N, 37:30E), Central Kenya, 3 January 1981 (Haas *et al.* 1981). There are also two records from South West Africa (Namibia) (Winterbottom 1974) and one from Aldabra in the Indian Ocean (Frith 1974). To the north in Ethiopia I found them each autumn in small numbers, but sometimes 40-50 together, between 25 September and 9 November (once 11 September), and in spring between 8 March and 27 April, in 1970-1976. Between these periods there were only two observations, each in December (17-20th), suggesting that there is a passage to and from areas further to the south. Further east in Somalia there are three records in the north in spring and another from Gezira (1:57N, 45:11E) in the southeast, of a bird on the

coast on 24 November 1978 (Ash in prep.).

There was individual variation in the colour of the upperparts of the birds in Uganda, but most were greyish, especially over the head and extending on to the breast. All wing feather tips and edges were margined with buff to reddish buff, including all primaries, producing a distinct mottled or scaly appearance. In flight and on the ground the combined effect of these pale edges produced a band of reddish brown on the wing. All birds had the belly white. Their tails were the same colour as the upperparts, darkening terminally and broadly tipped with pure white (although the two central tail feathers on some were tipped pale grey). Bill dark, legs red, eye mustard to red-brown. There were no neck markings until 15 October when one bird was beginning to develop the dark bands. The first (a), however, lacked this greyiness and was pale sandy brown (isabelline) above, with a paler forehead, and paler buffish breast; the brown patch on the wing was richer in colour (chestnut) and had more distinct darker centres to the feathers, producing a mottled or spotted effect.

The first bird (a) was possibly referable to one of the North African races *hoggara* or *isabellina* and the others, because of their pale grey heads and general pale colour, were most probably *arenicola* or perhaps from an intergraded population with *turtur*. It is probably not possible to identify immature birds to subspecies with certainty. Further observations will probably show that Turtle Doves are more frequent, if not regular, visitors to East Africa.

Dusky Nightjar *Caprimulgus fraenatus*

Nr. Moroto (2:32N, 34:39E), 18 June 1983, 1 at 52 km S.W. (24C)
Nr. Moroto ("), 20 June 1983, 5 at 24-45 km N.W. (24A).

All of these were found dead on dirt roads. In the early morning of 20 June 1983, 12 dead nightjars were collected on the road between 24 and 45 km by road north-west of Moroto. They included one Pennant-winged Nightjar *Macrodipteryx vexillarius*, one Plain Nightjar *Caprimulgus inornatus*, three Slender-tailed Nightjars *C. clarus* and five Dusky Nightjars *C. fraenatus*. Three of the last species had undamaged wings of length (male) 161; female 156, 164 mm. Also, although there are records close to the border in Kenya, it has not previously been found in Uganda (Britton 1980). Dr D.J. Pearson kindly checked a wing and some tail feathers against specimens of *C. fraenatus* at the National Museum in Nairobi and found agreement. I have several other similar specimens, which have also been confirmed as *fraenatus* at the British Museum (Natural History), Tring, where one is deposited (Registration No. 1985.1.5).

Eurasian Swallow *Hirundo rustica* x House Martin *Delichon urbica* hybrid.

Entebbe (0:04N, 32:38E), 1 October 1983, one.

In a flock of over 100 Eurasian Swallows hawking for food in the

lee of two large trees on 1 October 1983 at Entebbe, there was one bird noticeably different in its manner of flight. Through binoculars it was taken at first to be a House Martin because of its white rump - a seldom reported species in the area (Carswell, in press) - but its head was like that of a swallow's, and its tail was intermediate between the two species; in fact it possessed the mixed field characteristics of both species.

It immediately recalled similar birds I had seen in Indonesia, and whose identification I was unable to determine. (These birds were on Bali at two localities on the same day 27 August 1981: two at Anturan and one at Banyu Wedang. They were noted as having dark throats and forked tails as in *rustica*, but with white rumps as in *Delichon*). Thus I was specially interested in obtaining further information on this bird, particularly as there is no known species of *Hirundo* with a white rump. Vansteenwegen (1980) recorded a similar hybrid male paired with a female Swallow in Belgium, and mentions 30 other instances. Since then there have been several other records including Prendergast & Boys (1983) in U.K., and Grech (1984) in Malta and Denmark.

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SHORT COMMUNICATIONS

NOTES ON SOME BIRDS OF OL ARI NYIRO, LAIKIPIA PLATEAU

During the period 28 April to 11 May 1985, while conducting research on honeyguides Indicatoridae on Ol Ari Nyiro (Laikipia) Ranch in Central Kenya we observed, and in some cases recorded voices of, birds that are noteworthy in terms of avian distributions or particular behaviour patterns we have not seen reported before. Most of the species mentioned below were observed, and some ringed in the upper Mukutan Gorge, the Mukutan being a stream draining westwards from the Laikipia Plateau through a narrow gorge, then opening out towards Lake Baringo. The study site in the Mukutan is at 0:36N, 36:22E at an elevation of 1740 m. The habitat consists of narrow riparian woodland mainly of fever trees *Acacia xanthophloea* and rocky surrounding hills bearing mixed leleshwa *Tarchonanthus camphoratus*, acacias, and *Combretum* spp. During April and May the ranch was experiencing its heaviest 'long' rains in a decade.

Four-banded Sandgrouse *Pterocles quadricinctus*

A pair stood closely in front of our vehicle, and then at its side for 10 min, within 7 m of us on 4 May. This was at 18:30 in leleshwa-acacia bushland on a rocky slope. This is considerably east of prior reports, the nearest of which (Britton 1980) is at "the Kerio Valley".

Cuckoos

During early May seven species were singing, five of which were reasonably common. In order of abundance based on vocal activity (which of course may underestimate numbers of those species just beginning to sing) these were the Red-chested *Cuculus solitarius*, Black *C. clamorus*, Didric *Chrysococcyx caprius*, Black and White *Clamator jacobinus*, Klaas' *Chrysococcyx klaas*, Levaillant's *Clamator leivaillanti*, and Emerald *Chrysococcyx cupreus*. All species ranged through diverse habitats we encountered, except that the only singing Emerald Cuckoo was in the riverine woods.

Silvery-cheeked Hornbill Bycanistes brevis

One brayed in the gorge near our site on 10 May; the bird, atop a fever tree, bowing deeply and cocking its tail, faced to the south-west whence came answering cries at half a kilometre in that direction. This appears to be the most northerly occurrence of this large hornbill, known from the higher areas around Nyaharuru regularly north to Ngelesha, where some highland forest remains (C. Francombe pers. comm.).

Hemprich's Hornbill Tockus hemprichii

This species of the Baringo area has been reported to us previously from the Mukutan by Colin Francombe, but we had never seen them there until 10 May, when we followed a foraging pair (that must have wandered east up the Mukutan) to about $1\frac{1}{2}$ km south of our site, at 1770 m, where they disappeared from view in fever trees to the south. This represents a high altitudinal occurrence as well as an eastern extension of its range. The gorge's rocky walls would seem ideal for this species, but it most likely normally occupies the lower gorges to the west. They must thus wander in search of fruits when not breeding. Britton (1980) notes a record from Nakuru at 1800 m, but states its altitudinal range as 950-1300 m. It is apt to occur regularly along the rocky west Laikipia scarp up to 1500 m or even, as in this instance, higher.

Pallid Honeyguide Indicator meliphilus

It occurred regularly at our honeyguide study site in the Mukutan, in numbers smaller than the Scaly-throated *I. variegatus*, Black-throated *I. indicator* and Lesser *I. minor* that regularly feed on our honeycomb feeders. One colour-ringed on 11 May weighed 14.4 g and had a wing length of 74 mm.

Wahlberg's Honeybird (Brown-backed Honeybird) *Prodotiscus regulus* Playback of its song, a short monotonous trill reminiscent of the more strident, longer song of the Scaly-throated Honeyguide, elicited a few songs by one bird and repeated approach and searching behaviour by a second bird on 11 May. The song for playback was from Len Gillard's cassettes *Southern African bird calls*. The bird attracted closely to us did not call, but held its crown feathers erect, and occasionally flashed its white flank marks in flight to us. The English name of this bird in brackets is that used by us in the forthcoming *Birds of Africa* Volume III; its brown back distinguishes it very well from the Eastern Green-backed Honeybird (the Eastern Honeybird of Britton 1980) *P. zambesiae*, and these names, used in Zambia and elsewhere, are far more appropriate and helpful for identification than are those of *Birds of East Africa*; these names followed those used by Forbes-Watson (1977) although it is worth noting that Forbes-Watson was dissatisfied with some of them himself.

Like other *Prodotiscus*, this species does not feed at bee-hives, but obtains wax from the scale-insects it eats. We never saw it at our makeshift hive, although it once sang from a fever tree overhead.

Black Rough-wing (Black Sawwing Swallow) *Psalidoprocne pristoptera*
Although reported by Brown & Britton (1980) as usually not nesting in stream banks, we regularly saw two birds of a party (frequently numbering five or six) enter and leave a hole excavated 3 m up a steep bank in a bend of the Mukutan stream from 1-11 May. The marks of their feet on the base of the entrance hole were clearly visible. Two flood situations during our stay brought the water level up to within a metre below the nest, but they continued using it. We did not attempt to ascertain its contents. The birds were highly vocal and we obtained numerous recordings of their weak calls. We prefer the appropriate name 'sawwing' used further south in Africa, for these birds because 'rough-wing' (Britton 1980) is a long-used name for a genus (*Stelgidopteryx*) of American swallows.

Violet-backed Starling *Cinnyricinclus leucogaster*

These starlings were numerous in pairs and small groups of up to eight, and obviously were nesting between 28 April-11 May. Our assistant, Dikson Chepus, told us of the habit of these starlings of incorporating elephant dung into their nests. Once apprised of this, we began to look at pairs, and on 10 and 11 May we observed three separate incidents of Violet-backed Starlings, in each case a male, plucking, balling and carrying off 1.5-2.0-cm balls of elephant dung. In one case the dung was fresh, and in the other cases it was old, but rains had rendered them equivalent to fresh dung for the birds' purposes. We could not take time to seek the nests, but watched two males fly toward distant dead trees. One male gathered the dung along a track in front of us, as its presumed mate fed on the track. When the male flew with the dung, the female probed for insects a few more times, then flew after the male. On 11 May a pair flew above us in the Mukutan, the male bearing a wad of elephant dung in his bill. The male, carrying the dung and followed by the female, attempted to enter a cavity in a fever tree over our hide; this hole had been investigated for several days by a singing male Yellow-spotted Petronia *Petronia pyrgita*. The petronia appeared and vigorously chased the starlings to a fever tree 50 m to the north, calling constantly. For over 10 min the petronia chased them, especially the male starling, about that tree, and it once intercepted the male starling, and drove it off when it again flew toward the cavity-bearing tree. During all this time the male starling held the dung in its bill, and as far as we could see it still held the dung when the two starlings finally flew away to the east.

Stripe-breasted Seed-eater *Serinus reichardi*

This little-known seed-eater extends its range in drier areas across the Laikipia Plateau east to Don Dol (*fide* D. Turner), but we had not seen it in previous visits to Ol Ari Nyiro. From 3-11 May a singing male accompanied by a female was about our site in the Mukutan. The male employed the tops of certain acacias, including fever trees, as singing perches. These song perches covered an area of some 400 m x 200 m. We recorded the very varied song, which employs much mimicry; we noted mimicry involving such calls

and songs as those of white-eyes *Zosterops* spp., Cardinal Woodpecker *Dendropicos fuscescens*, White-browed Robin Chat *Cossypha heuglini*, Collared Sunbird *Anthreptes collaris*, Black Cuckoo Shrike *Campephaga flava* and others. They were likely breeding.

Somali Golden-breasted Bunting *Emberiza poliopleura*
We flushed three buntings from along a track in degraded *Acacia gerrardii* woodland at 1830 m on 3 May. One disappeared before we could observe it, but the other two, a male and female of this species, perched alongside our vehicle. We clearly saw the white-patterned wings and patterned greyish streaky back with the grey rump of this bunting. We can only assume that these birds wandered upland to the south and west of their normal, lower, dryer range (Britton 1980 gives 1200 m as the altitudinal maximum). This may be a reflection of generally more arid conditions in the Laikipia region, although the May rains were unusually heavy (only some 255 mm of rain, a 30-year low, fell on the main portion of the ranch in all of 1984).

ACKNOWLEDGEMENTS

We thank Mrs P. Gallman for permission to conduct our research on Ol Ari Nyiro Ranch, and for aid in setting up our camp. Mr and Mrs Colin Francombe also assisted greatly, as did Dikson Chepus and John Loru, and many workers on the ranch too numerous to mention individually. R. Leahey and the staff of the National Museums of Kenya, particularly Cecilia Muringo, also gave help. We are grateful to all of these, to the Office of the President of Kenya for our research authorisations, and to the Ministry of Environment and Natural Resources for appropriate permits.

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Lester L. Short, American Museum of Natural History, New York, N.Y. 10024, U.S.A. and Jennifer F.M. Horne, National Museums of Kenya, P.O. Box 40658, Nairobi.

Scopus 9: 137-140, December 1985.

Received 31 July 1985

DESERT WHEATEAR *OENANTHE DESERTI* IN KENYA

On 17 February 1984 I had to fly to Kiunga (1:45S, 41:29E), north Kenya coast some 10 km SW of the Somali border, in the course of my job. The suddenness of my departure prevented me from taking binoculars. My time on the ground was restricted to the airstrip and adjacent hospital. The habitat was open, as befits an airstrip, with low sparse bush mostly under a metre high. Several Pied and Isabelline Wheatears (*Oenanthe pleschanka* and *O. isabellina*) were present and they, together with the Northern Wheatear *O. oenanthe* are white-rumped wheatears with which I am very familiar.

I was walking slowly about between the clumps of bush when my attention was drawn by two wheatears chasing one another. As one perched on a twig about a metre from the ground the other flew away from me showing a white rump and a broad black terminal band to the tail (not an inverted T). The other bird remained perched for probably 20 s until I got to within 10 m of it. I was able to see its black throat and sides of head up to the level of the eye, and the black tail; the underparts and mantle were more brown than in *O. isabellina*, wings much darker blackish with light edges to the primary coverts (Isabelline Wheatears seen minutes before and after the Desert Wheatears). It flew away but I could not follow because there was a group of fenced Somali huts in the way.

When the birds were first glimpsed chasing each other, and then when the better observed bird left its perch, they called. I am unable to describe the calls except that they were multi-syllabic and unlike any wheatear I know, that is, nothing like a *chack* sound. The birds were robust, larger than Pied Wheatear and probably about the same size as Isabelline. The observations were made about noon in full sun.

My initial determination of the birds as Desert Wheatears was upheld by the East African Rare Birds Committee. In Somalia the species had not been recorded for the ex-Italian part of the country (all except the northwest) until Ash (1981) obtained several records around Mogadishu between December 1979 and January 1981. His birds were all males and he noted that they extended the range of the species some 1000 km south. Further observations around Kiunga in the Palaearctic winter would be of interest as the area has not been much explored for birds apart from the shore (Fogden 1963). It is interesting that Fogden, who was at Kiunga from 20 July to 19 September and at the Boni Forest some 30 km inland until 6 October, remarked especially that he only saw two species of Palaearctic passerines during his stay (Eurasian Swallow *Hirundo rustica* five on 18 September and Grey Wagtail *Motacilla cinerea* one at Boni on 6 October).

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- G.C. Backhurst, P.O. Box 24702, Nairobi Received 2 December 1985
-
- Scopus* 9: 140-141, December 1985.

LETTER

On the claimed occurrence of the Spike-heeled Lark *Chersomanes albofasciata* in Kenya

Moore (1979) gave, in some considerable detail, a textbook description of *Chersomanes albofasciata* from Amboseli in southern Kenya yet, oddly enough, failed to comment on a number of field characteristics that would surely have been apparent to anyone observing this species for the time claimed (at least 5 min).

Chersomanes albofasciata is an extremely localized species in East Africa, occurring in only two small areas of eroded calcareous soils to the north of Arusha, Tanzania, at an altitude of between 1460 and 1550 m, while Moore's sighting in Amboseli was on almost bare alkaline soil with only very sparse grass cover, at an altitude of only 1060 m and some 80 km to the north of its normally very restricted preferred habitat.

In general, Spike-heeled Larks, which are common in many parts of South Africa and Namibia, vary considerably in plumage according to the local ground cover and soil colouration. However, all of them are readily identified at all times by a number of rather minor yet very noticeable field characteristics, none of which was reported by Moor (1979), i.e:

no mention of the bill; this, although long, is noticeably decurved when seen at close range.

no mention of its very upright and erect stance, which is very apparent to any observer at all times.

No mention of a trilling flight call and fanned tail clearly showing white tail tips; both these characters are very noticeable (and Moore's bird is reported to have flown away from him during observation).

In view of these omissions I suggest that the Spike-heeled Lark be removed from the Kenya list. I suggest too that Moore's description be submitted to the East African Rare Birds Committee which of course was not in being at the time of his submission.

REFERENCE

MOORE, R.D. 1979. Spike-heeled Lark *Chersomanes albofasciata* at Amboseli: a new bird for Kenya. *Scopus* 3: 103.

D.A. Turner, P.O. Box 48109, Nairobi Received 10 December 1985

Scopus 9: 142, December 1985

OBITUARY**JEAN DELACOUR**

We were sad to learn of the death in a Los Angeles, California hospital on 5 November 1985 of Dr Jean Delacour, leading authority on waterfowl and pheasant-like birds and, at 95, the oldest world ornithologist. Dr Delacour was past-president of the International Ornithological Congress, and of the International Council for Bird Preservation. He was a leading figure in the conservation of birds for over half a century. His field work was mainly in Asia, but he visited all continents. A leading aviculturist, he maintained extensive aviaries at his home in northeastern France; these were destroyed during both World Wars but he rebuilt them each time. He was long a Research Associate of the American Museum of Natural History where he wrote many works, sometimes with Ernst Mayr; he also directed the Los Angeles County Museum for over a decade. We mourn the passing of this fine old man.

Lester L. Short

NOTICES**SEVENTH PAN-AFRICAN ORNITHOLOGICAL CONGRESS**

The seventh congress will be held in Nairobi, Kenya from 28 August to 5 September 1988. There will be symposia, contributed papers, poster sessions, workshops, and excursions including several tied in with symposia on avifaunas of threatened forests of Kenya. One theme will be threatened Afrotropical forest avifaunas. The I.C.B.P. will participate in a one full day's programme. Funding and suggestions for funding travel to the meeting, and participation of indigenous African ornithologists in it are solicited.

For further information contact Don Turner, P.O. Box 48019, Nairobi, Kenya or Lester L. Short, American Museum of Natural History, New York, N.Y. 10024-5192. Avian physiologist Professor Geoffrey Maloiy of the University of Nairobi is the Congress Chairman. For those wishing to contribute papers or propose symposia, the Scientific Programme Chairman is Dr David Pearson, Department of Biochemistry, University of Nairobi, P.O. Box 30197, Nairobi.

CORRECTION

N.R. Fuggles-Couchman has pointed out an error in his paper, 'The distribution of, and other notes on, some birds of Tanzania' (Scopus 8: 3). The date '2 November 1952' should read '25 February 1952' in the first paragraph of the account of *Sarkidiornis melanotos*.

SCOPUS SUBSCRIPTIONS

Subscriptions for 1986 are now due and should be sent to D.A. Turner, P.O. Box 48019, Nairobi, Kenya.

We are sorry that we have had to increase the rates for subscribers in East Africa to K.Shs. 100 (K.Shs. 107/50 for cheques other than those drawn on a Nairobi bank). Happily all other rates remain the same and are given inside the front cover of this issue.

EAST AFRICAN BIRD REPORT 1985

Please send all records for inclusion in the report (which covers Kenya, Tanzania and Uganda) to Dr D.J. Pearson, Department of Biochemistry, University of Nairobi, P.O. Box 30197, Nairobi, Kenya by the end of March. It would be a great help if observers could separate their records into (a) Afrotropical and oceanic species, and (b) Palaearctic migrants.

REMINDER FOR CONTRIBUTORS

Although notes for contributors are given inside the cover of *Scopus*, in common with notices all over the world, they are often not read, or at least not followed. One of *Scopus*' quirks is to ask for journal names to be given in full when cited in the list of references. The reason for this is that, although there are various comprehensive lists of periodicals published giving 'approved' abbreviations, these lists, besides being extremely expensive also differ one from another in their choice of abbreviations. It is considered easier, both for the author and the readers, to give the names of journals in full. When books are cited the town of publication and the name of the publisher should be given.

Any reference cited should be listed at the end of the contribution following the form used in this issue. Names of periodicals must be given in full and, in the case of books, the town of publication and the publisher should be given. A number of works, which are cited frequently, should not be listed under 'References'; the name(s) of the author(s) and date(s) of publication should be given in the text in the normal way.

All contributions, which will be acknowledged, should be sent to the Editor, G.C. Backhurst, Box 24702, Nairobi.

WORKS WHICH SHOULD NOT BE LISTED UNDER 'REFERENCES'

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EAST AFRICAN BIRD REPORT

This forms the fifth issue of *Scopus* and each report covers one calendar year. Records of Afrotropical Region and Oceanic birds should be sent to D.A. Turner, Box 48019, Nairobi; records of Palaearctic Region birds to Dr D.J. Pearson, Department of Biochemistry, University of Nairobi, Box 30197, Nairobi. Records should be sent in early in the new year to ensure the speedy production of the Bird Report. Reports of rare birds may be telephoned through to any OS-C member (numbers inside front cover) in the hope that the bird(s) may be seen by others.

Criteria covering the submission of Bird Report records are given in *Scopus* Supplement, June 1982, copies of which are available from D.A. Turner.

BIRDS OF EAST AFRICA

Copies of this 270-page book are available from the Secretary, EANHS, Box 44486, Nairobi, for Stg£8.00 or US\$17.00 surface mail to anywhere in the world.

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Notes for Contributors

Scopus welcomes original contributions on all aspects of the ornithology of eastern Africa. Contributions will be assessed by members of the OSC and/or by independent referees. The material published is divided into 'papers' and 'short communications', the latter will usually be less than two pages in length.

Contributions should be typed in 1.5 or double spacing on one side of the paper only, with wide margins all round, and should be sent in duplicate. Hand-written MSS will also be considered but they must be clearly written, and sent in duplicate too. Both English and scientific names of birds should be given when the species is first mentioned, thereafter only one name should be used; they should be those of *Birds of East Africa* unless the species does not occur in that work. Tables, which should be numbered, should appear in the typescript, not grouped together on separate sheets at the end. Metric units should be used. Contributions will be welcomed on floppy disk—please contact the Editor for details.

Illustrations should be on good quality white paper or tracing material, in line, and should not be larger than 19 x 23 cm. Unless the author can provide professional quality lettering, it should be done lightly in pencil. Each illustration should be numbered (Fig. 1, etc.) and be provided with a legend typed on a separate sheet of paper. Photographs will be considered and should be good quality black and white.

Any reference cited should be listed at the end of the contribution following the

GENERAL REVIEW

The year 1985 produced one new species for East Africa: Laura's Warbler *Phylloscopus laurae*, known from adjacent parts of Zambia, was collected in forest at Kitungula, southwest Tanzania. There were no other additions to national lists, but the following were especially noteworthy: the second East African Jouanin's Petrel *Bulweria fallax*, captured alive, like the first example 32 years previously, at Malindi in December; a Dickinson's Kestrel *Falco dickinsoni* at Meru, the northernmost record of this species to date; a White-collared Pratincole *Glareola nuchalis* in eastern Kenya; a Black and White Flycatcher *Bias musicus* at Meru; a European Sparrowhawk *Accipiter nisus* at Ngulia; 55 Lesser Golden Plovers *Pluvialis dominica* near Kipini, an unprecedented number in Kenya; one, and perhaps two Long-toed Stints *Calidris subminuta* at Naivasha; and a River Warbler *Locustella fluviatilis* apparently wintering in Kitui.

In Kenya, many areas had already recovered by the end of 1984 from the disastrous drought of that year, but much of the northwest was still parched early in 1985, and the Uasin Gishu dams were dry. The Rift Valley lakes were receding to pre-1977 levels, and Ferguson's Gulf in Lake Turkana dried up for the first time in three decades. Few waders remained at Lake Nakuru, but the muddy shores of Lake Naivasha supported many and varied migrant waterbirds. Palaearctic ducks were particularly abundant in the Thika area, with over 10,000 present on one dam at Makuyu. Unseasonal showers affected many southern areas during January and February. The bushlands of Kibwezi, South Kitui and Tsavo remained lush and green and supported an abundance of wintering Palaearctic passerines, including Golden Orioles *Oriolus oriolus*, Sprossers *Luscinia luscinia* and Marsh Warblers *Acrocephalus palustris*. The long rains arrived at the end of March, and were generally good. Northward migration was marked at the coast, with hundreds of shrikes (mostly Red-backed *Lanius collurio*) and unusually high numbers of Eurasian Rollers *Coracias garrulus*, but was not a major feature elsewhere. Large falls of migrants were noted after rain, however, at the lighted Kiambere dam construction site in Embu District on 29 March (mainly Northern Wheatears *Oenanthe oenanthe*) and 14 April (mainly Whitethroats *Sylvia communis* and shrikes), and at Samburu Lodge on 12 April.

The short rains reached most central areas by the beginning of November, but were patchy and had little effect on most of the north. Tsavo became green only at the end of November. Immense falls of night migrants occurred at Ngulia on 22 and 23 November, and night ringing was more successful here than for several years (see detailed account on p. 160). Some large flocks of Lesser Spotted Eagles *Aquila pomarina* and gatherings of up to 400 Eastern Red-footed Falcons *Falco amurensis* were seen in and near Tsavo in late November. The Rift lakes rose slightly between April and August, but had receded again by the end of the year to levels lower than those of January. During November–December, an assortment of thousands of waterbirds—ducks, coots, herons, waders, pelicans and even Greater Flamingos *Phoenicopterus ruber*—was present in the shallow Marina Bay area at Naivasha, and

the drying Ferguson's Gulf supported a concentrated collection of ducks, Black-winged Stilts *Himantopus himantopus*, smaller waders and gulls.

This report has again depended on records supplied by a small band of observers based at Nairobi and a few individuals resident elsewhere in Kenya and in scattered bases in Tanzania; just two observers supplied records from Uganda. Visitors from Europe and North America also made valuable contributions. In Kenya, at least, we feel that much interesting information is lost because observers lack the confidence or do not have the time to organize their records for us; or are perhaps uncertain of just what is worth sending in. This is a pity; we welcome any contributions, and although we must deal carefully with potential rarities we do not question or criticize records unnecessarily. We would like to expand the base of our report material, and to this end plan to publish an update of our advice on submission of records in the near future.

D.J. Pearson, Chairman, Ornithological Sub-Committee, E.A.N.H.S.

Scopus 9 (5): 145-146, June 1987

SPECIES REPORT

This report covers the three East African countries Kenya, Tanzania and Uganda. Records are included under one or more categories, indicated by code letters as follows:

- S(A): Scarce species in category A (five or fewer previous records from East Africa); all records of such species are published.
- S(B): Scarce species in category B (six to twenty-five previous records from East Africa); all records of such species are published.
- R: Species of interest whose status in East Africa requires clarification, and for which all records are **Requested**. Records may be listed or summarized in full each year, or reviewed after several years.
- E: Records showing an **Extension** of range, or from areas where the species is decidedly uncommon to scarce.
- N: Records included for their **Numerical** interest, either of particularly large numbers or of careful counts.
- D: Records of migrants where **Dates** are of interest.
- B: Records of **Breeding** interest, from new or unusual areas or involving interesting numerical elements.
- M: Records of **Miscellaneous** interest.

Records were collated by D.A. Turner and D.J. Pearson. All refer to Kenya unless otherwise stated

Afrotropical and Oceanic Species

Podicipedidae: grebes

Podiceps nigricollis Black-necked Grebe R: up to c. 20 Naivasha Feb-Apr (LDCF, DJP); singles Thika OPs 5 Aug and Limuru 11 Aug (DJP); pair with two juvs Lake Bogoria 28 Apr (MS).

Diomedaeidae: albatrosses

Diomedea melanophrys Black-browed Albatross S: an adult off Shimoni 6 Oct (MH, PH).

Procellariidae: petrels, shearwaters

Bulweria fallax Jouanin's Petrel S: 1 picked up Malindi 9 Dec (BB); later died; skin deposited in Nairobi Museum. The second Kenya and East African record.

Puffinus lherminieri Audubon's Shearwater S: 1 off Shimoni 16 Feb (MH, PH).

Hydrobatidae: storm petrels

Oceanites oceanicus Wilson's Storm Petrel S: 1 off Shimoni 22 Sep (MH, PH).

Phaethontidae: tropicbirds

Phaethon lepturus White-tailed Tropicbird S: 1 off Shimoni 20 Nov (MH, PH). 1 Dar es Salaam, Tanzania, 11 Mar (NEB).

Sulidae: boobies

Sula dactylatra Masked Booby R: singles off Shimoni 6 Feb, 6 Oct (MH, PH).

Sula leucogaster Brown Booby S: an immature off Shimoni 22 Sep (MH, PH).

Fregatidae: frigatebirds

Fregata sp.: 1 off Shimoni 8 Sep (MH, PH).

Ardeidae: herons

Ixobrychus minutus paysii Little Bittern R: several Lake Baringo Jul-Sep (DAT); 1 Lake Naivasha 16 Jun (DJP).

Ixobrychus sturmii Dwarf Bittern R: 6 Kalalu Ranch, 50 km W of Jilore, 4 Apr, and 4 still there 20 Apr (MACC). 1 Ruaha NP, Tanzania, 4 Aug (EL); 1 Dar es Salaam, Tanzania, 19 May (NEB).

Ardeola idae Madagascar Squacco Heron R: recorded Dar es Salaam, Tanzania, 11 May-Jul, max 14 (NEB); Thika OPs 24 May-12 Oct (max 12) (DJP); Mara GR Aug (DAT); also 2 Lake Nakuru 14 Jun, 1 Limuru 16 Jun and 12 Aug and 1 Mombasa 2-12 Oct (DJP, CR, DAT).

Ardeola rufiventris Rufous-bellied Heron R: up to 3 Mufindi, Tanzania late Aug-Nov and 2 Usungu Flats rice scheme, Tanzania, 16 Nov (AJB).

Egretta ardesiaca Black Heron R: small numbers most months Dar es Salaam, Tanzania, Lake Jipe and Lower Tana. Also 1 Lake Naivasha 16 Dec and 1 Lake Baringo 12 Dec (AJB, MACC, DJP, DKR, DAT).

Egretta gularis African Reef Heron R: singles Mida Creek 14 Feb (dark), and 19 Nov (white), and Amboseli 10 Jul (white) (DJP, DKR, DAT).

Ciconiidae: storks

Ciconia episcopus Woolly-necked Stork E: a pair Mara GR 5 May (FA) and 3 Meru NP 30-31 Jul (DAT).

Phoenicopteridae: flamingos

Phoeniconaias minor Lesser Flamingo EN: c. 220 Lake Munyanyango, Rwenzori NP, Uganda, 21 Jun (DEP).

Anatidae: ducks, geese

Dendrocygna viduata White-faced Whistling Duck N: >1000 Usangu Flats rice scheme, Tanzania, 16 Nov (AJB).

Nettapus auritus African Pygmy Goose R: recorded only from Gazi (Mar), Lake Bilisa (Apr) and Mufindi, Tanzania (Sep–Nov) (AJB, MACC).

Anas sparsa African Black Duck E: singles Athi River, Nairobi NP, 20 and 25 Aug (ADL, DAT).

Accipitridae: birds of prey

Gypohierax angolensis Palm-nut Vulture E: singles Kindaruma Mar, Apr, Jul and Nov (BB); 1–2 Meru NP Jul and Nov (DAT).

Gypaetus barbatus Lammergeyer R: 1 Hell's Gate 25 Mar (MS).

Accipiter minullus Little Sparrowhawk R: singles Nairobi suburbs Jul, Aug and Nov; 2 near Nakuru Nov; 1 near Mbiuni (Machakos) Nov (ADL, DJP, PW, DAT).

Accipiter ovampensis Ovampo Sparrowhawk S: 1 Mara GR 10 Aug (WR, BS). Photograph supplied. Satisfactory Kenya records of this species are very few indeed.

Butastur rufipennis Grasshopper Buzzard R: several Meru NP early Nov and parties Tsavo West NP mid Nov (DAT).

Buteo tachardus Mountain Buzzard E: 1 Mt Kulal 8 Aug (NR, IR).

Aviceda cuculoides Cuckoo Hawk R: recorded Nairobi NP and suburbs Jun–Aug, Sigona 11 Aug, Meru 1 Aug, near Malindi 15 Jul and Mombasa–Sokoke–Malindi area (several) 15–18 Aug (ADL, LDCF, DJP, DKR, DAT).

Chelictinia riocourii Swallow-tailed Kite R: frequent records Narok–Suswa area, max 7 on 19 Jun (DKR); pair daily Koobi Fora 31 May–8 Jun (FA).

Macheiramphus alcinus Bat Hawk R: recorded Mombasa (Jul), Naivasha (Oct), Kakamega (Nov) and Taita Hills Lodge (Nov) (CR, DKR, DAT, DEW).

Falconidae: falcons

Falco ardosiaceus Grey Kestrel E: 1 Dar es Salaam, Tanzania 12 July was the first record for the area (NEB).

Falco cuvieri African Hobby R: recorded Mara GR Nov and Mombasa Oct (CR, DEW).

Falco dickinsoni Dickinson's Kestrel S: 1 Meru NP 30 Jul (RB, WR, BS). The fourth Kenya record, and the most northerly to date.

Falco rupicoloides White-eyed Kestrel E: 6 at base of Mt Kulal 8 Aug (NR, IR); 1 Lokitaung 17 Dec (DJP, DAT).

Phasianidae: game birds

Coturnix chiniensis Blue Quail R: 1 Madaba, Tanzania, 10 Jul (EL).

Francolinus levaillantii Red-winged Francolin R: party of 5 Mufindi,

Tanzania, 16 Feb (AJB).

Ptilopachus petrosus Stone Partridge R: calling Lewa Downs, Timau, Dec (DKR).

Turnicidae: button quails

Turnix sylvatica Button Quail M: 1 caught at night Ngulia 18 Dec (GCB).

Rallidae: rails

Crex egregia African Crake R: singles Mombasa 24 Jul, 10 Nov and 7 Dec (CR); 2 Lake Baringo 3 Aug (DAT). 1 Dar es Salaam, Tanzania, 19 May was first for the area (NEB); singles Mufindi, Tanzania, 18, 29 Apr and 14 May (AJB).

Porphyrio porphyrio Allen's Gallinule R: >50 Lake Baringo Aug-Sep and 1 there 10 Nov (DAT); regular Mombasa Jul-Dec (CR).

Rallus caerulescens African Water Rail BM: 4 ads with juvs Mara GR 10 Aug (DAT); 1 caught at night Ngulia 10 Dec (GCB).

Sarothrura boehmi Streaky-breasted Pygmy Crake S: 1 Mufindi, Tanzania, 27 May (AJB); attracted to lights at night.

Sarothrura rufa Red-chested Pygmy Crake R: a few present all months Kai-mosi (DAT).

Helimithidae: finfoots

Podica senegalensis African Finfoot R: pair with 2 young Tana River below Kindaruma 10 Oct (BB); 1 Thika River, Kamburu 29 Oct (BB); pair resident Athi River, Nairobi NP (DAT) and Ruaha NP, Tanzania, 21 Jul (NEB).

Otididae: bustards

Neotis denhami Denham's Bustard R: 1 Lemek, Mara GR Jun (DKR); at Laikipia: 2 near Maralal 25 Apr, 1 Laikipia Ranch 29 Aug, 3 Mugie 31 Oct and 7 there 5 Dec, 3 P&D Ranch 11 and 28 Nov (MACC, DAT); 2 Narok airstrip 11 Nov (DAT).

Otis kori Kori Bustard N: >25 in wheat fields near Narok 11 Aug (DAT).

Jacaniidae: jacanas

Microparra capensis Lesser Jacana R: few resident Mufindi area, Tanzania (AJB).

Recurvirostridae: stilts, avocets

Himantopus himantopus Black-winged Stilt B: at least 30 juvs Lake Magadi 21 July including a half-grown unfledged chick (DJP).

Recurvirostra avosetta Avocet E: 6 Rwenzori NP, Uganda, 21 Jun (DEP).

Glareolidae: coursers, pratincoles

Rhinoptilus chalcopterus Violet-tipped Courser R: 1 caught at night Ngulia 10 Dec (GCB) was the first for the Lodge. In Tanzania, 4 Madaba airstrip May-Jun (EL) and >40 Mikumi NP 7 Jun (NEB).

Glareola nuchalis White-collared Pratincole E: 1 with Common Pratincoles *G. pratincola* 16 Feb where Tana River flowed over small falls out of Lake Bilisa, Garsen (DJP, MACC).

Glareola ocularis Madagascar Pratincole R: 20+ Sabaki 17 Aug (DAT);

10+ Dar es Salaam, Tanzania, 7 Jun (NEB).

Laridae: gulls, terns

Anous stolidus Common Noddy R: 1 Sabaki River 3 Feb (LDCF).

Chlidonias hybridus Whiskered Tern B: 10+ pairs nesting Limuru swamp 14 Jun (DJP); few recently fledged juvs Lake Nakuru 11 Aug (DJP).

Sterna albifrons Little Tern E: c. 10 Lake Shakababo and 1 Lake Bilisa, a few km inland, 15–16 Feb (DJP, MACC).

Sterna anaethetus Bridled Tern R: 1 off Watamu 29 Dec (DAT).

Sterna bengalensis Lesser Crested Tern E: inland, 1 Lake Shakababo 15 Feb (DJP); 1 Lake Naivasha 9 Aug (BM).

Sterna repressa White-cheeked Tern R: 1 Mombasa Apr; small flocks flying south 26–28 May (MACC); 1 Sabaki mouth 21 Oct (CR).

Rynchopidae: skimmers

Rynchops flavirostris African Skimmer R: small flock Lake Naivasha (max 30) Feb–1 May (DJP) and 1 there 21 Jul (LDCF); several Sabaki mouth Feb, Apr and Oct (LDCF, CR); 1 Kindaruma 28 Jul (BB); 5 Lake Jipe 16 Apr (MS); 12+ Koobi Fora 31 May–8 Jun (FA). 200+ Rwenzori NP, Uganda, Feb–Mar (DEP).

Cuculidae: cuckoos

Clamator glandarius Great Spotted Cuckoo R: recorded Nairobi Apr and Magadi road Mar (DJP, PW).

Clamator jacobinus Black and White Cuckoo R: recorded Tsavo West NP, Amboseli, Naivasha, Baringo, Samburu GR and Mara GR Feb; Nairobi NP Feb–Apr and Jul; Shimba Hills and Kalalu Ranch Apr; Kamburu May; Meru NP Jun; and Koobi Fora Jun. Most records, however, from Kibwezi/Tsavo area Nov–Dec (LDCF, BB, MACC, FA, DJP, DKR, CR, DAT, PW).

Clamator levaillantii Levaillant's Cuckoo R: 1 Nairobi NP 5 Apr (LDCF).

Cuculus gularis African Cuckoo R: calling: Magadi road Mar, Baringo Jun and Maktau, Makindu and Ngulia Nov (DJP, DAT).

Cuculus solitarius Red-chested Cuckoo E: calling Mt Kulal 8 Aug (NR, IR).

Ceuthmochares aereus Yellowbill M: 1 caught at night Ngulia 10 Dec (GCB). The second record for the Lodge.

Centropus grillii Black Coucal R: 1 Mombasa end Oct (CR); 2 Lake Kanyaboli end Dec (DAT); 1 Morogoro, Tanzania, 11 Oct (AJB).

Strigidae: owls

Scotopelia peli Pel's Fishing Owl R: pair prospecting Thika River at Kamburu 30 Jun and one same site 27 Dec (BB).

Caprimulgidae: nightjars

Caprimulgus donaldsoni Donaldson-Smith's Nightjar RM: caught at Ngulia 21 Nov and 9 Dec (GCB, DJP).

Caprimulgus fraenatus Dusky Nightjar RM: 2 caught Ngulia 14 Dec (GCB).

Caprimulgus inornatus Plain Nightjar RM: caught at Ngulia 21 Nov and 23 Nov (GCB, DJP).

Apodidae: swifts

Apus berliozi Forbes-Watson's Swift R: several over Sokoke Forest late Dec (DAT).

Apus horus Horus Swift E: 1 Kilifi-Ribe road 21 Nov (CR).

Meropidae: bee-eaters

Merops hirundineus Swallow-tailed Bee-eater R: 1 Madaba, Tanzania, 27-28 Apr and 1 Songea, Tanzania, 15 Aug (PS).

Merops nubicus Carmine Bee-eater E: few Tsavo West NP near Kamboyo mid Oct (DJP).

Coaraciidae: rollers

Coracias abyssinicus Abyssinian Roller E: 1 Kisumu 9 Dec (DAT).

Bucerotidae: hornbills

Tockus hemprichii Hemprich's Hornbill E: 2 Laikipia Ranch 10 Aug (MACC); 2 Menengai 10 Dec (MACC); 4 Marich Pass 12 Oct (ADL).

Capitonidae: barbets

Pogoniulus chrysoconus Yellow-fronted Tinkerbird E: 1 Kakamega town 16 Nov (DEW).

Picidae: woodpeckers

Denropicos stierlingi Stierling's Woodpecker E: resident Madaba, Tanzania, throughout the year (EC).

Picoides obsoletus Brown-backed Woodpecker R: singles Nairobi suburbs most months; 1 Naro Moru Jun (DKR) and 1 near Arusha, Tanzania, Sep (DKR).

Pittidae: pittas

Pitta angolensis African Pitta R: 3 caught at night Mufindi, Tanzania, 23 Nov (AJB); 1 recorded Njombe, Tanzania, Nov (EC).

Alaudidae: larks

Mirafraga nigricans Dusky Bush Lark RE: 1 Madaba, Tanzania, 31 Mar (PS). Full details received.

Hirundinidae: swallows

Hirundo atrocaerulea Blue Swallow R: recorded Luhoto, Tanzania, Jan and Feb and up to 12 Mufindi, Tanzania, to 14 May and from 18 Sep (EMB).

Paridae: tits

Parus leucomelas Black Tit E: 1 Bagamoyo, Tanzania, 18 Aug (NEB).

Timaliidae: babblers

Turdoides hindei Hinde's Pied Babbler R: 3 at usual site Kianyaga 8 Oct (DAT); no other records.

Pycnonotidae: bulbuls

Nicator chloris Nicator M: 1 caught in the bush at Ngulia 23 Nov (DJP) was new for the site.

Turdidae: thrushes

Cercotrichas hartlaubi Brown-backed Scrub Robin R: recorded Nairobi, Kianyaga, Aberdare NP and Naro Moru (various observers).

Dryocichloides poliopterus Grey-winged Robin Chat R: recorded near Kapenguria Apr and Saiwa Feb and Oct (DJP, CR, ADL).

Monticola angolensis Little Rock Thrush R: records from Wamba-Maralal road (DEW), Meru town (DKR) and near Mweiga (DAT).

Turdus fischeri Spotted Ground Thrush R: 2 Jadini Forest 10 Jul (LDCF); 1 Gede 14 Apr (CR).

Sylviidae: warblers

Chloropeta gracilirostris Papyrus Yellow Warbler R: 1 Kendu Bay end Dec (DAT).

Eremomela scotops Green-capped Eremomela R: 1 Sokoke Forest 18 Aug (DAT).

Heliolais erythroptera Red-winged Warbler R: in Tanzania: singles Madaba 10 Mar and Apr (PS); a pair feeding fledged young N of Chilizze 12 Jan (NEB).

Hyltiota flavigaster Yellow-bellied Hyltiota R: 2 Kongalal escarpment Apr (CR); recorded Madaba, Tanzania, Mar-Apr (PS).

Phylloscopus laurae Laura's Warbler S(A): a male collected Apr, Kitungulu, Tanzania (DCM, RS). First record for Tanzania and East Africa, see *Scopus* 10: 99-102.

Phylloscopus ruficapilla Yellow-throated Woodland Warbler E: party of c. 10 Kikoneni, near Mrima Hill, south coast, 28 Mar (MACC).

Sylvietta isabellina Somali Long-billed Crombec R: 2-3 near Mutha, S Kitui, Mar; several NE of Keuso, N Kitui, mid Mar (DJP); 2 Meru NP Jul (DAT); a few Lokitaung mid Dec (DJP, DAT).

Muscicapidae: flycatchers

Muscicapa caerulescens Ashy Flycatcher E: an adult with juv near Mbiuni (Machakos District) 15 Oct; also at same site Nov (DJP, AEB).

Muscicapa gambagae Gambaga Flycatcher R: 2 near Wamba end Dec (DAT).

Myioparus plumbeus Lead-coloured Flycatcher R: 1 in riverine *Acacia* few km N of Kongolal 22 Feb (DJP, MACC); 1 base Marich Pass 12 Oct (ADL); 2 Sokoke Forest late Dec (DAT).

Myopornis boehmi Böhm's Flycatcher R: a few in miombo woodland Madaba-Mahenge, Tanzania, mid Sep (AJB).

Bias musicus Black and White Flycatcher RE: 3 (2 females and 1 male) in forest edge near Meru town 29 Jul (DAT).

Motacillidae: pipits, wagtails

Anthus vaalensis Buffy Pipit R: recorded Madaba, Tanzania, May (PS).

Tmetothylacus tenellus Golden Pipit E: 1 Ologessailie 11 May (LDCF).

Malaconotidae: bush shrikes

Dryoscopus pringlii Pringle's Puffback R: several seen E of Cheuso, N Kitui mid Mar (DJP); recorded Meru NP Jul and Nov (DAT).

Laniarius ruficeps Red-naped Bush Shrike R: very common E of Mutha, S Kitui, and E of Cheuso, N Kitui, mid Mar (DJP).

Laniidae: shrikes

Lanius souzae Souza's Shrike R: 1 Madaba, Tanzania, 15 Mar (EC).

Prionopidae: helmet shrikes

Prionops retzii Retz's Helmet Shrike E: party Athi River E of Mbiuni (Machakos District) 15 Oct and same area end Nov (DJP, AEB).

Sturnidae: starlings

Cinnyricinclus sharpii Sharpe's Starling R: 1 near Kongolai Apr (CR); 2 forest edge near Meru town 1 Aug (DAT).

Spreo shellyi Shelley's Starling RE: a few Mackinnon Road Aug–Nov (GCB, CR, DAT).

Ploceidae: weavers

Anomalospiza imberbis Parasitic Weaver R: 1 Nairobi NP 20 Mar (DKR).

Euplectes diadematus Fire-fronted Bishop EN: 1 Kamburu 24 Mar (BB); flocks in Tsavo West NP at Lake Jipe and in Samburu GR Apr (MS).

Ploceus golandi Clarke's Weaver R: c. 10 Sokoke Forest 4 Aug (LDCF).

Ploceus heuglini Heuglin's Masked Weaver RE: 2 Lokitaung 16 Dec (DJP, DAT).

Ploceus oliveiceps Olive-headed Golden Weaver R: 1 (nominate) Madaba, Tanzania, 24 Mar (EC); 2 Magambo Forest, Lushoto, Tanzania, 22 Dec of the distinctive race *nicolli* (the Usambara Weaver) (NEB).

Passer domesticus House Sparrow R: 2 S shore of Kilifi Creek, 30 Aug–1 Sep (GCB).

Vidua hypocherina Steel-blue Whydah R: 2 30 km S of Kitui Mar; 1 Mutha (S Kitui) Mar; 1 40 km E of Cheusi (N Kitui) Mar (DJP).

Vidua obtusa Broad-tailed Paradise Whydah R: common Madaba, Tanzania, May–Jun (EC).

Estrildidae: waxbills

Estrilda perreini Lavendar Waxbill R: several Madaba, Tanzania, 26 Jan; 3 Mikumi NP, Tanzania, Jul (NEB).

Estrilda troglodytes Black-rumped Waxbill R: small party Ahero rice scheme Feb (DJP, MACC).

Pyrenestes minor Lesser Seed-cracker R: up to 5 Mufindi, Tanzania, Aug–Dec (AJB); several Lushoto, Tanzania, Feb (EMB); 1 Lilando Quarry near Madaba, Tanzania, Feb (EL).

Pytilia afra Orange-winged Pytilia R: 1 near Songea, Tanzania, Apr (PS); 1 Poroto Mts, Tanzania, Aug (ES).

Lonchura fringilloides Magpie Mannikin R: singles Madaba, Tanzania, Apr

(PS); flock 200+ Lake Dhambwe, Poroto Mts, Tanzania, Oct (ES).

Fringillidae: finches, buntings

Serinus koliensis Papyrus Canary R: several Kendu Bay end Dec (DAT).

Serinus mennelli Black-eared Seed-eater R: small groups in miombo woodland, Madaba–Mahenge, Tanzania, Feb, and May–Oct (AJB, EL).

Serinus reichardi Stripe-breasted Seed-eater R: small groups in miombo woodland Madaba–Mahenge, Tanzania, Feb, May, Aug and Sep (AJB).

Palearctic Species

Ciconia ciconia White Stork EDN: up to 1000 Timau 26 Jan; 1 Kibimba, Uganda 8 Dec (MJC); >200 Mara GR 14 Nov (DAT).

Ciconia nigra Black Stork RM: recorded to 5 Apr and from 25 Sep, with records of 1–2 birds Nairobi, Ruiru, Aberdares, Timboroa, Samburu GR, Rumuruti, Mara GR, Meru NP and Mito Andei (ADC, MACC, DAT, DEW). One flying at 2290 m above Kiambu 12 Nov (FA).

Anas acuta Pintail N: c. 1000 Makuyu 2 Feb and c. 3000 there 10 Feb (DJP).

Anas clypeata Shoveler N: c. 5000 Ferguson's Gulf 17 Dec (DJP, DAT).

Anas crecca Teal R: up to 11 Thika OPs Jan–Feb; 1–2 Dandora OPs late Jan–early Feb; >4 Naivasha 3 Feb; 2 Thika OPs early Dec (DJP, DAT).

Anas penelope Wigeon R: 12 Laikipia Ranch 17 Jan; up to 3 Naivasha, last seen 25 Mar (DJP); 1 Makutano (Machakos) on small dam 1 Dec (DJP).

Anas querquedula Garganey N: c. 5000 Makuyu 10 Feb (DJP); c. 3000 Ferguson's Gulf 17 Dec (DJP, DAT).

Aythya fuligula Tufted Duck R: c. 20 Naivasha 20 Mar, and 5 there 25 Mar (DJP).

Aythya nyroca Ferruginous Duck S: a male Thika OPs 26 Jan and 2 Mar (DJP); a female/immature Dandora OPs 7 Feb (DJP).

Circus gallicus gallicus Short-toed Snake Eagle S: 1 L Nakuru 6 Feb (IJF-L, NC, DCB). Full details received.

Accipiter nisus Eurasian Sparrowhawk S: a female Ngulia 15–16 Nov (DJP, GR, FR, DEGB).

Aquila pomarina Lesser Spotted Eagle R: 3 Rongai and 3 Menengai 19 Feb (MACC, DJP); 4 Naivasha 19 Feb (DKR); several Mara GR 18 Mar (DKR). Up to 12 Mufindi grasslands, Tanzania 16 Feb–21 Mar (AJB). Recorded 3 Nov onwards Mara GR, the Rift, Nairobi, Isiolo and Tsavo, with c. 20 Isiolo 9 Nov and c. 40 Mito Andei and Ngulia 23 Nov (DEGB, AP, DJP, DKR, DAT).

Buteo buteo Common Buzzard ND: up to 150+ Mufindi grasslands, Tanzania to 21 Mar and from 17 Oct (AJB); 1 Sokoke Forest 2 and 4 Apr (MACC, PP); 10+ Mara GR 13–14 Nov (DAT).

Hieraetus pennatus Booted Eagle R: recorded Nairobi, Meru, Tsavo and Garsten during Feb (MACC, DJP, DKR); 1 Dar es Salaam 6 Jul (NEB). Seen Rumuruti, Kakamega and Voi mid-Nov, and Nakuru and Tsavo West NPs Dec

(GCB, MACC, DJP, DKR, DEW).

Pernis apivorus Honey Buzzard R: 1 Tsavo West 16 Feb (DKR); 1 robbing hornets' nest Langata 20 Apr (PF); 1 Sokoke Forest 2 Apr (MACC, PP) and 1 there on 28 Dec (DAT).

Falco amurensis Eastern Red-footed Falcon R: up to 5 at termite hatches Mufindi, Tanzania 27 Jan–10 Apr (AJB); 2 Karawa, 70 km N of Malindi, 1 Apr and 2 Kalalu Ranch, E of Tsavo East NP, 3 Apr (MACC, PP); 1 Nairobi NP 20 Jan (JSA, CJF, DJP) and 3 on 14 Mar (LDCF); c. 500 Mtito Andei/Kamboyo area, Tsavo West NP, 20 Nov, with c. 200 remaining on 21 Nov, but only 15 on 24 Nov (DJP, DEGB, AP, DAT); 100s 5 km SE of Simba, moving E, 24 Nov (RJT); 2 Kibimba, Uganda 7–8 Dec (MJC).

Falco cherrug Saker Falcon S(B): 1 Nairobi NP 17 Feb (JF-L, NB, DCB *et al.*). Full details received.

Falco concolor Sooty Falcon R: an adult Tiwi (south coast) 14 Apr (DJP).

Falco subbuteo Hobby N: commonly overwintering Mufindi grasslands, Tanzania up to 10 Apr and from 18 Oct, max 80+ in Mar (AJB).

Porzana porzana Spotted Crane S(B): 1 Ngulia 16 Dec (GCB).

Haematopus ostralegus Oystercatcher R: 1 Malindi 6 Oct (LLD), 10 Dec and 19–20 Dec (BB, DAT). On the last occasion the bird was recognized as a juv of the race *longipes*.

Charadrius asiaticus Caspian Plover DM: an early bird Minjila, near Garsen, 5 Aug (LDCF); first seen Mara plains 10 Aug (DAT); first seen Rumuruti/Laikipia area 11 Nov (MACC); c. 25 Lake Bilisa 16 Feb (MACC, DJP)—small numbers appear to be regular here.

Charadrius alexandrinus Kentish Plover S(B): 6+ Ferguson's Gulf 17 Dec (DJP, DAT).

Charadrius dubius Little Ringed Plover R: recorded to 24 Mar and from 25 Oct, max 10+. New sites: Suam River, Athi River along Kitui–Machakos road, and Kindaruma, where regularly up to 10 (BB, DJP, DAT).

Charadrius leschenaultii Great Sandplover E: inland (apart from Lake Turkana): 1 Kindaruma 25 Oct (BB).

Charadrius mongolus Mongolian Sandplover E: inland: recorded only at Ferguson's Gulf, where it is regular.

Pluvialis dominica Lesser Golden Plover S(B): 1 Naivasha 13 Aug (PGA); 1 Ferguson's Gulf 17 Dec (DJP, DAT); at Sherekiko, 25 km S of Kipini, lower Tana River, 7 on 29 Dec and 57 on 31 Dec (ALA), see *Scopus* 10: 107–108.

Pluvialis squatarola Grey Plover E inland: 1 Kindaruma 2–9 Nov (BB) and 1 Lake Baringo 11 Nov (DEW); at Ferguson's Gulf, where probably regular, 10+ on 17 Dec (DJP, DAT); 2 Lutembe, Uganda 24 Nov and 1 Kibimba, Uganda 7–8 Dec (MJC).

Numenius arquata Curlew M: 1 flying S 22 Jul and 6 on 25 Jul at Diani (MACC). Small numbers have been noted coasting south at this time in previous years.

- Tringa erythropus* Spotted Redshank RD: recorded to 19 Apr and from 17 Nov, max c. 25 Dandora OPs 7 Feb; new sites: Saguta Mugie and Naro Moru; 1, presumably overwintering, Naivasha 1 Jun (LDCF). In Uganda, 2 Kibimba 7–8 Dec (MJC).
- Tringa totanus* Redshank R: 1 Galu (MACC) and 1 Mida 20 Nov (DAT) were the only records received.
- Xenus cinereus* Terek Sandpiper NE: max coast count 250+ Mida 20 Nov (DAT). Inland: singles Naivasha 17 and 31 Mar (LDCF), 2 Kindaruma 15 Sep and 3 on 21 Sep (BB), 1 Ololden, Naivasha, 1 Nov (JSB, AMP) and 3+ Ferguson's Gulf 17 Dec (DJP, DAT).
- Gallinago gallinago* Common Snipe D: 3+ Naivasha 1 May (DJP).
- Calidris alba* Sanderling E inland: 1 Kindaruma 6 Oct, 1 on 9 Nov and 2 on 12 Dec (BB); 2 Nakuru 12 Nov (DEW); 30 Ferguson's Gulf 17 Dec (DJP, DAT).
- Calidris subminuta* Long-toed Stint S(B): 1 Naivasha 3 and 20 Mar; 1 in breeding plumage there 1 May (DJP). See *Scopus* 10: 41–42.
- Calidris temminckii* Temminck's Stint R: recorded Lakes Baringo, Nakuru and Naivasha up to Mar and from Nov. Also singles Kindaruma 31 Jan, 24 and 31 Mar and 15 Nov (BB); 14+ L Bilisa 16 Feb and 6 there 1 Apr (MACC, DJP, PP); 5 Ahero 25 Feb (DJP, MACC).
- Limosa limosa* Black-tailed Godwit R: recorded Naivasha 3 Feb–18 May, max c. 30 (DJP, LDCF); 6 Mara GR 4 Jan (DKR); 6+ L Bilisa 16 Feb and 3 there 1 Apr (MACC, DJP, PP); 1 Baringo 6 and 9 Nov and c. 50 Ferguson's Gulf 17–18 Dec (DJP, DAT). In Uganda, 1 Kibimba 8 Dec (MJC).
- Arenaria interpres* Turnstone E inland: singles Dandora OPs 13 Oct, Lake Magadi 30 Oct and Lake Jipe 17 Nov (DJP, DKR, DAT).
- Phalaropus lobatus* Red-necked Phalarope R: a few off Shimoni mid-Mar and scores 20 Oct (PH, MH); 75+ Watamu 27–28 Dec (DAT).
- Burhinus oedicnemus* Stone Curlew R: 2 Mara GR 12 Nov (DAT).
- Larus argentatus* Herring Gull N: c. 30 Malindi 29 Aug and 20+ there 19–20 Nov (GCB, DAT). A few at Ferguson's Gulf Dec where the species now appears to be regular in small numbers (DAT).
- Larus genei* Slender-billed Gull R: 5–6 Ferguson's Gulf 17 Dec (DJP, DAT).
- Larus ichthyaetus* Great Black-headed Gull S(B): 1 Malindi 31 Dec (DAT).
- Larus ridibundus* Black-headed Gull N: >500 Ferguson's Gulf mid-Dec (DAT).
- Sterna hirundo* Common Tern N: >500 Malindi 31 Dec was an interesting date for such a large number (DAT).
- Cuculus canorus* Eurasian Cuckoo NDM: very many Sokoke 14 Apr; 1 taken by genet *Genetta* sp. inside Ngulia Lodge at night on 19 Dec (GCB).
- Cuculus poliocephalus* Lesser Cuckoo R: 1 Sokoke Forest 31 Mar (MACC, PP) was the only record received.
- Otus scops* Scops Owl R: 1 Lavington, Nairobi, 26 Mar was presumed to have

been Palaearctic (DAT). Singles caught and ringed Ngulia 17, 18 and 19 Dec were all Palaearctic (GCB).

Caprimulgus europaeus Eurasian Nightjar R: 3 Sokoke Forest 28 Mar and 1 Diani 6 Apr (MACC, PP). A few recorded (including 3 ringed) Ngulia 2 Nov–9 Dec and 1 Kilaguni 6 Nov (GCB, DJP, DKR).

Apus apus Eurasian Swift N: many 100s Voi–Kibwezi in unusually green conditions 28 Jan and 27 Feb (DJP).

Upupa epops epops Hoopoe R: recorded Kongolai 22 Feb and N of Rumuruti 26 Nov (MACC, DJP). In Uganda, 1 Mburu NP 3 Feb and 1 Lutembe 3 Nov (MJC).

Irania gutturalis Irania R: 3 in song 40 km E of Mutomo (Kitui) 10 Mar and 1 in song 70 km NE of Mwingi Market 16 Mar; 1 Masinga 24 Mar (DJP); 114 ringed Ngulia 21 Nov–19 Dec; 3+ Meru NP 10 Nov; singles Lake Jipe 24 Nov, Taveta 25 Nov and Lake Nakuru NP 7 Dec (GCB, BB, DJP, ADL).

Luscinia luscinia Sprosser D: wintering and spring birds as follows: recorded 2 sites 30–40 km S of Kitui 9 Mar; c. 30 km E of Mutomo (Kitui) 10 Mar; 2+ Mito Andei 8 Apr (DJP).

Monticola saxatilis Rock Thrush E: 1 Mufindi, Tanzania 11 Jan (AJB).

Oenanthe oenanthe Northern Wheatear D: 1 Tsavo East NP 20 Jun (DKR).

Phoenicurus phoenicurus Redstart R: singles Kipsain and Kongolai 22 Feb (DJP, MACC).

Saxicola rubetra Whinchat E: recorded Mufindi, Tanzania 27 Feb and 7 Apr (AJB).

Acrocephalus griseldis Basra Reed Warbler R: 1 in song Dar es Salaam, Tanzania 5 Jan (NEB); several singing birds Lake Shakababo 15 Feb (DJP, MACC); 108 ringed Ngulia 22 Nov–19 Dec, max 30 (ringed) on 14 Dec (GCB, DJP); 1 in song Mackinnon Road 24 Dec (DJP).

Acrocephalus palustris Marsh Warbler DE: several (5+ in one site) wintering 30–50 km S of Kitui and also 20–30 km E of Mutomo (Kitui) 9–10 Mar (DJP). On northward passage, recorded Tiwi 9 and 14 Apr, near Mito Andei 8 Apr, Athi River 16 Apr (DJP). From usual areas of Kenya on southward passage, and also 1 Mara GR 14–15 Nov (DAT), and 1 Naivasha 4 Dec (DJP, DAT).

Hippolais olivetorum Olive-tree Warbler R: 1 Vanga 13 Apr (DJP, MACC); singles Meru NP (in song) 10 Nov, Maktau 15 Nov and Taveta 25 Nov (DJP); 6 ringed Ngulia 22 Nov–10 Dec (GCB, DJP).

Hippolais pallida Olivaceous Warbler D: late bird singing Nairobi 14 May (GCB).

Locustella fluviatilis River Warbler R: 1, 40 km S of Kitui 9 Mar was presumed to be overwintering (DJP); 202 ringed Ngulia 21 Nov–19 Dec (GCB, DJP); the only other passage record was one in song at Mackinnon Road 24 Dec (DJP).

Sylvia nisoria Barred Warbler R: common *Commiphora* woodland E of Mutomo and NE of Mwingi Market, Kitui District, mid-Mar (DJP); 1 Kiambere 14 Apr (BB); 1 Narok 15 Nov (DAT); 2 Lokitaung 16 Dec (DJP, DAT). Otherwise from usual areas in SE Kenya.

Ficedula albicollis semitorquata Collared Flycatcher S(B): a male of this race Kakamega 24 Mar (DJP, PP); an accompanying female *Ficedula* was likely to have been of this race and species.

Anthus cervinus Red-throated Pipit E: c. 20 Kibimba, Uganda 7 Dec and c. 300 8 Dec (MJC).

Back Records (Palearctic species)

Charadrius dubius Little Ringed Plover: 5, 10 km NNW of Mombasa 4 Nov 1984 and 1 on 24 Nov 1984 (CR); 1 Kindaruma 15 Dec 1984 (BB).

Tringa erythropus Spotted Redshank: 1 in grassland near Naro Moru 29 Dec 1984 (CR).

Calidris alba Sanderling: 1 Kindaruma 6 Oct and 12 Dec 1984 (BB).

Sterna hirundo Common Tern inland: a Polish-ringed bird caught and released 21 Oct 1984, found dead there next day (Dr William H. Buskirk per GCB).

Hippolais icterina Icterine Warbler: 1 stunned by window at Bamburi, Mombasa, Apr 1984 (CR).

EAST AFRICAN RARE BIRDS COMMITTEE

During 1985 the newly formed East African Rare Birds Committee was asked to adjudicate on a number of records. The following three records were accepted:

Larus dominicanus Kelp Gull

1 Malindi Fish Harbour 2 January 1984 (J. Mulder, J. de Ridder). First record for Kenya and East Africa.

Oenanthe deserti Desert Wheatear

2 Kiunga 17 February 1984 (G.C. Backhurst). First record for Kenya and East Africa.

The following record was not accepted:

Tringa solitaria Solitary Sandpiper

1 Lake Baringo 23 October 1984.

The following are members of the Rarities Committee:

J.S. Ash	D.J. Pearson
D. Fisher	A.J. Prater
G. Nikolaus	J.C. Sinclair
S.C. Madge	T. Stevenson
R.J. Dowsett	D.A. Turner

First and last dates of some Palaearctic migrant landbirds

Species	Last date	First date
<i>Cuculus canorus</i>	14 Apr Tiwi	04 Nov Mt Kenya
<i>Caprimulgus europaeus</i>	06 Apr Diani	21 Nov Ngulia
<i>Merops apiaster</i>	19 Apr Naivasha	15 Sep Nairobi
<i>M. persicus</i>	14 Apr Tiwi	06 Nov Baringo
<i>Coracias garrulus</i>	15 Apr Tsavo	18 Oct Meru NP
<i>Riparia riparia</i>	01 May Naivasha	—
<i>Delichon urbica</i>	19 Apr Naivasha	—
<i>Cercotrichas galactotes</i>	—	17 Nov Bura (Taita)
<i>Irania gutturalis</i>	—	10 Nov Meru NP
<i>Luscinia luscinia</i>	08 Apr Mtito Andei	02 Nov Kangundo
<i>L. megarhynchos</i>	14 Apr Tiwi	—
<i>Monticola saxatilis</i>	10 Apr Tiwi	03 Nov Meru NP
<i>Oenanthe isabellina</i>	—	13 Oct Athi Plains
<i>O. oenanthe</i>	06 Apr Ngong	14 Sep Samburu
<i>O. pleschanka</i>	30 Mar Nairobi	21 Oct Machakos
<i>Acrocephalus arundinaceus</i>	22 Apr Kariobangi	—
<i>A. griseldis</i>	—	21 Nov Ngulia
<i>A. palustris</i>	16 Apr Athi River	14 Nov Mtito/Mara
<i>A. scirpaceus</i>	27 Apr Athi River	—
<i>A. schoenobaenus</i>	05 May Athi River	—
<i>Hippolais languida</i>	—	17 Nov Lake Jipe
<i>H. olivetorum</i>	13 Apr Vanga	10 Nov Meru NP
<i>H. pallida</i>	14 May Nairobi	02 Nov Meru and Kangundo
<i>Locustella fluviatilis</i>	—	21 Nov Ngulia
<i>Phylloscopus trochilus</i>	01 May Nairobi	—
<i>Sylvia atricapilla</i>	25 Mar Kakamega	30 Oct Nairobi
<i>S. borin</i>	16 Apr Athi River	07 Nov Muhoroni
<i>S. communis</i>	14 Apr Kiambere	03 Nov Meru NP
<i>S. nisoria</i>	14 Apr Kiambere	06 Nov Baringo
<i>Muscicapa striata</i>	17 Apr Nairobi	23 Oct Nairobi
<i>Anthus cervinus</i>	—	06 Nov Baringo
<i>A. trivialis</i>	—	11 Oct Cherangani
<i>Motacilla cinerea</i>	—	01 Nov Timau
<i>M. flava</i>	01 May Naivasha	—
<i>Lanius collurio</i>	22 Apr Kariobangi	03 Nov Meru NP
<i>L. isabellinus</i>	15 Apr Mackinnon Rd	02 Nov Naivasha
<i>L. minor</i>	19 May Kijabe	—

Records refer to central and eastern Kenya except where otherwise stated.

RINGING AND MIGRATION AT NGULIA, TSAVO, AUTUMN 1985

G.C. Backhurst and D.J. Pearson

Ringers spent nineteen nights at Ngulia Safari Lodge studying migration from 15 November to 19 December, and catching was possible on all but four of them. The frequent misty conditions and good supply of helpers on some nights accounted for the high total of 6253 Palaearctic migrants ringed—the fourth highest total in the 17 years the site has been worked.

In recent years most of the quartz-halogen lights at the Lodge (which, with mist, are responsible for attracting migrating birds) have been reduced in power to 500 W. In addition, when lights fail, they are often not replaced for several nights. Thus there have been nights with peak numbers of birds but small catches due to the inadequate attracting power of the lights. This year, from the early December period, we avoided this frustrating situation by bringing our own 1 kW light which we erected on a stout Linhof tripod immediately to the north of the Lodge.

There were seven nights with little or no mist, but on the other twelve conditions were excellent. During the November visit, the nights of 22nd and 23rd saw exceptionally large numbers of birds grounded in the bush near the Lodge (bush catches of 322 and 448 respectively) with catching continuing till 18:00 on 23rd. Marsh Warblers (scientific names are given in Table 1), Sprossers and Whitethroats predominated (ratio 3.3:2:1) and there were 43 Iranias and 16 Basra Reed Warblers, but numbers of other migrants were low. A *Nicator Nicator chloris* caught in the bush on 23rd was new for the area.

Eurasian Rollers were common in the Park on 7 December at the beginning of the second visit, but few other migrants were in evidence. All but two of the nights from 8 to 19 December were more or less ideal and the numbers of birds caught was limited only by the number of ringers present (never more than two together). Marsh Warblers predominated with 601 on 13th and 481 next day and Sprossers were also

Table 1 *continued*

Totals of Palaearctic species ringed in previous autumn seasons but not in this year are as follows: Little Bittern *Ixobrychus m. minutus* 4, Eleonora's Falcon *Falco eleonora* 1, Corncrake *Crex crex* 7, Spotted Crake *Porzana porzana* 1, Great Snipe *Gallinago media* 1, Eurasian Cuckoo *Cuculus canorus* 2, Lesser Cuckoo *C. poliocephalus* 1, Sand Martin *Riparia riparia* 6, Golden Oriole *Oriolus oriolus* 13, Redstart *Phoenicurus phoenicurus* 3, Whinchat *Saxicola rubetra* 2, Icterine Warbler *Hippolais icterina* 3, Savi's Warbler *Locustella luscinioides* 1, Wood Warbler *Phylloscopus sibilatrix* 2, Blackcap *Sylvia atricapilla* 48, Yellow Wagtail *Motacilla flava* 3, hybrid Red-backed/Red-tailed Shrike *Lanius collurio-isabellinus* 9.

From December 1969 a total of 74066 Palaearctic night-migrating birds of 45 species has been ringed at Ngulia during southward passage between October and February.

Table 1 Numbers of Palaearctic night migrants ringed at Ngulia Safari Lodge between October and February in the years 1969–1986*

Species	1985/6* total	%* Total 1969– 1986*
Scops Owl <i>Otus scops</i>	3	— 5
Eurasian Nightjar <i>Caprimulgus europaeus</i>	3	16 244
Eurasian Roller <i>Coracias garrulus</i>	1	36 38
Eurasian Swallow <i>Hirundo rustica</i>	4	40 135
Rufous Bush Chat <i>Cercotrichas galactotes</i>	10	17 770
Iranian <i>Irania gutturalis</i>	114	119 1370
Sprosser <i>Luscinia luscinia</i>	1369	138 14501
Nightingale <i>L. megarhynchos</i>	17	45 504
Rock Thrush <i>Monticola saxatilis</i>	5	60 114
Isabelline Wheatear <i>Oenanthe isabellina</i>	4	73 75
Northern Wheatear <i>O. oenanthe</i>	6	81 102
Pied Wheatear <i>O. pleschanka</i>	1	— 37
Great Reed Warbler <i>Acrocephalus arundinaceus</i>	2	— 31
Basra Reed Warbler <i>A. griseldis</i>	108	260 652
Marsh Warbler <i>A. palustris</i>	3185	178 26595
Sedge Warbler <i>A. schoenobaenus</i>	1	— 79
Reed Warbler <i>A. scirpaceus</i>	3	61 68
Upcher's Warbler <i>Hippolais languida</i>	16	77 288
Olive-tree Warbler <i>H. olivetorum</i>	6	26 312
Olivaceous Warbler <i>H. pallida</i>	16	63 347
River Warbler <i>Locustella fluviatilis</i>	202	105 2719
Willow Warbler <i>Phylloscopus trochilus</i>	41	42 1312
Garden Warbler <i>Sylvia borin</i>	28	80 490
Whitethroat <i>S. communis</i>	1047	70 20499
Barred Warbler <i>S. nisoria</i>	26	69 523
Spotted Flycatcher <i>Muscicapa striata</i>	12	24 655
Tree Pipit <i>Anthus trivialis</i>	1	— 20
Red-backed Shrike <i>Lanius collurio</i>	7	12 788
Red-tailed Shrike <i>L. isabellinus</i>	15	31 657
Number of species	29	— 29
Total ringed	6253	73959

* 1985/86 season—but no ringing done in January or February 1986

** The autumn 1985 total expressed as a percentage of the mean of the 13 years 1972/73 to 1985/86 for each species.

Footnote to Table 1 continued opposite on p. 160

caught in good numbers. Whitethroats were well down but Basra Reed and River Warblers were more plentiful than average. Numbers of 'minor' species were generally low, as can be seen from the percentages in Table 1. Two exceptions were the Irania (114 ringed) and the Palaearctic Scops Owl. One Scops Owl was caught on each of the last three nights, all three being in identical net positions; there are only two previous ringing records for the Lodge.

We have remarked before on the minute numbers of Afrotropical species encountered at Ngulia at night (Backhurst & Pearson 1977); only the Harlequin Quail *Coturnix delegorguei* and some nightjars *Caprimulgus* spp. being regular in any numbers. This year three interesting Afrotropical birds were caught on a single night, 9/10 December. An African Water Rail *Rallus caerulescens* and a Violet-tipped Courser *Rhinoptilus chalcopterus*, both new records for Ngulia, were picked up unharmed inside the Lodge by nightwatchman Darius, and the second Yellowbill *Ceuthmochares aereus* ever was netted just after midnight.

A Marsh Warbler ringed as an adult on the bush just south of the Lodge on 21 December 1984 was retrapped at night on 12 December and a female Red-tailed Shrike, originally ringed as a first-winter bird on 4 December 1983, was caught in the bush again on 12th this year.

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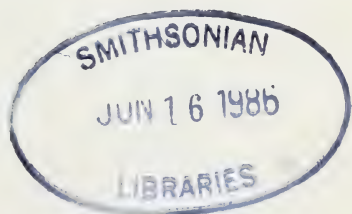
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SCOPUS

THE MARABOU IN KENYA

D.E. Pomeroy

It is hard to believe that Jackson (1938) could write, when he recorded Marabous *Leptoptilos crumeniferus* from the Lower Tana River, that this was the "... only instance of its ranging east of the Rift Valley". And that Marabous were "... not often seen on the ground..". The comment by Brown et al. (1982): "Frequent to common in most of range, locally abundant ..." seems more familiar. There is no doubt that the species has increased greatly during the present century, and by 1984 had been widely recorded in Kenya, except for the arid north and east where it is still very uncommon (Lewis & Pomeroy in press). The main purpose of this paper is to review the species' present status in Kenya, and particularly its breeding.

Following studies of Marabous in Uganda (e.g. Pomeroy 1973), I was interested to compare the situations in the two countries. There are striking differences. The Marabou, despite being widespread in Kenya, is much less numerous than in Uganda, where very large congregations may occur (that is to say, several hundred birds together). In Uganda, there are some 15-20 breeding colonies (Pomeroy 1977a), compared to only 5 or 6 in Kenya.

SOURCES OF DATA

Between 1974 and 1982 I followed up all reports of Marabou breeding colonies in Kenya, through the literature and by requests for information. The results were rather disappointing. There could still be undiscovered colonies but they are likely to be small, since most of Kenya is crossed quite frequently by light aircraft and colonies are conspicuous from the air. Further, pilots are likely to report them since the Marabou, like vultures, is a recognized hazard to light aircraft.

In addition, I made observations annually from 1977 to 1982 on the colonies at Kiboko and Kibwezi, and in several years at Kitale. Marabou colonies take 6-8 months from nest-building to fledging, and as nest-building is mainly between June and October, fledging is in

the next calendar year. Unless otherwise indicated, years refer to nest building and egg laying. Records of Marabous away from breeding colonies were not made systematically.

BREEDING COLONIES

Of the ten colonies which have been reported for Kenya, two are in urban areas and three others adjacent to a town or village; in Uganda, six out of the 27 recorded are in or near a town or village (Pomeroy 1977a). The numbers of nests recorded at nine of the colonies are given in Table 1. The main features of each colony are as follows; they are numbered in the Table.

1. Kitale. The colony is scattered in acacia trees (probably *Acacia abyssinica*) on the north-western outskirts of the town. Some of the trees are also used by Black-headed Herons *Ardea melanocephala*. Most of the trees are in or adjacent to the municipal rubbish dump, a regular feeding place for Marabous. The colony was studied in detail by Kahl (1966).

2. Garissa. Of the two records in Table 1, North's (1939) is of birds nesting in *Sterculia* sp., some 40 km south of the town, at Kumide. However, in 1983-4, they were nesting in tall trees near to the town, with nests at least 15 m from the ground. The two records could be considered as separate colonies.

3. Habaswein. At least 100 nests were being used in 1939-40 at Arop Dima (1:00N, 39:30E) and some 30 nests, 50 km to the west, at Goni (1:00N, 30:00E). The second of these is probably the same site as a colony reported from the Lorian Swamp by the Game Department (quoted by Cullen 1955), since when there has been no record. The area is one of the remotest in Kenya, and despite earlier comments on pilots reporting colonies it is quite possible that this one does exist still.

4, 5 and 6. The 'Makindu' group. Kahl (1968) reported a colony of 15 nests, 7 km SW of the town of Makindu, which had grown to some 45-55 nests by 1974 (W.L.N. Tickell, pers. comm., Pomeroy 1979), in two extremely large trees, probably *Acacia gerrardii*. By 1976, this colony had disappeared - possibly as a result of human disturbance - but a new colony had meanwhile appeared at Kiboko, in the grounds of Hunter's Lodge hotel. Over the years, several trees have been used at Kiboko, all *A. tortilis*. In at least one year, Baglafaecht Weavers *Ploceus baglafaecht* nested in one of the Marabou trees, whilst Black-headed Herons nested in an adjacent one.

In 1977, another colony was discovered, at Kibwezi, between the town and the main Nairobi-Mombasa road. This is the eastern extremity of the Kibwezi forest, which is supported by groundwater from the Chyulu Hills. About 20 trees have been used in various years, mainly *A. tortilis* but also some *A. xanthophloea*. These trees extend over a distance of about a kilometre.

7. Central Island, Lake Turkana. Many species of water birds breed on Central Island, or have done so, but so far as is known 1970/71 is the only year when Marabous did so.

TABLE 1

Numbers of Marabou nests at all known colonies in Kenya during the present century. Sources, and the basis for the figures in the final row, are given in the Notes. Breeding takes 6-8 months in Marabous, often extending from one year into the next. The data are given in relation to the year when eggs were laid.

	Colony								
	1. Kitale	2. Garissa	3. Habaswein	Makindu Group			7. Central Is.	8. Wajir	9. Oyugis
				4. Makindu	5. Kiboko	6. Kibwezi			
1935-6		24 ^a							
1939			130 ^b						
1954-5			- ^{pc}						21 ^d
1963	8 ^e								
1964	15 ^e								
1965	18 ^e			15 ^f					
1966	18 ^e								
1970						10-20 ^g			
1972	65								
1974	69			50 ^h					
1975	74								
1976				0	5 ^j				
1977				12	30	- ^{pk}			
1978				14	30				
1979	87			29	70				
1980	95 ^l			19	56				
1981	50 ^l			0	15	59			
1982	38 ^l			9	56				
1983		50 ^m						20 ⁿ	
1979-83 average ^p	67	(50)	(50)	0	18	60	(0)	20	(0)

Notes: a. North 1939; b. North 1943; c. Present: A. Cullen, quoting Kenya Game Archives for 1955; d. L.H. Brown, Nest Record Card, EANHS e. Kahl 1966; f. Kahl 1968; g. M.L. Modha, pers. comm.; h. W.L.N. Tickell, pers. comm.; j. Newsletter 17, August 1977, p.62, Dept. of Ornithology, National Museums of Kenya; k. Newsletter 22, January 1978, Dept. of Ornithology, National Museums of Kenya; l. W. Mokokha and B. Tengecho, pers. comm.; m. Osborn and Alio, 1984; n. G.R. Cunningham-van Someren, pers. comm.; p. Figures for Kitale, Kiboko and Kibwezi are averages for the years shown, for Garissa and Wajir the 1983 figures. The Habaswein colony is considered likely to have

remained extant, since the environment there has not greatly changed, although subject to considerable year-to-year variations. However, a low figure (50) is taken in the absence of any recent record.

Figures not credited are the author's.

8. Wajir. Marabous have been recorded here twice, in two trees in 1977-78, and in five trees in 1983-84, when about 20 nests were in use.

9. Oyugis. Leslie Brown completed a Nest Record Card on which he stated that there were "eggs chipping on 5 November", the site being a small forest patch. The number of nests is not mentioned: possibly it was only one.

10. Molo. Jackson (1938) has only one, intriguing record of Marabous breeding in Kenya: "... in a group of very tall trees on the Molo, close to the crossing on the old caravan road...". There were about 25 nests, one at least containing incubated eggs. It has proved impossible to discover the locality to which Jackson was referring.

In the last row of Table 1, I have attempted to estimate the average number of nests in each colony over the five-year period 1979-1983. The overall total can be no more than a first approximation: especially because the status of the once-large Habaswein colony is quite unknown. However, my estimated total is 265 nests.

SEASONALITY

Marabous show marked seasonal fluctuations in numbers wherever they occur (Pomeroy 1978a): they probably undertake migrations of hundreds of kilometres, or more (Pomeroy 1978b). In Kenya, peak numbers at a site near Nairobi were in March (Pomeroy 1978a). During 1979-80, there was a major roost at Kahawa, 18 km NE of Nairobi, in which numbers increased from about 100 in October to over 1000 for several weeks in January-February, before declining again to low numbers by May (G. Oba, *in litt.*).

Marabou breeding seasons vary geographically (Pomeroy 1978a). In East Africa, egg laying is progressively later in the year as one moves north-westwards. Fig. 1 shows data for the Kiboko-Kibwezi colonies, and for two years at Kitale. These sites provide an interesting contrast. Kibwezi has a mean annual rainfall of about 640 mm (Fenner 1982), whilst that at Kitale is about 1200 mm (Kenya Meteorological Department, *in litt.*). As at most other sites in eastern Africa, breeding in Kenya begins as the wet season is ending, but at Kitale this happens when the rainfall is still about 100 mm a month, whereas at Kibwezi it is practically nil. Thus it seems to be declining rainfall rather than the actual amount of rain, which stimulates breeding at these sites. Both at Kitale and Kiboko-Kibwezi, rainfall remained low for most of the five months when young are in the nest.

I have argued previously (Pomeroy 1978b) that when a rainy season is prolonged, breeding is delayed. Conversely, shorter-than-average

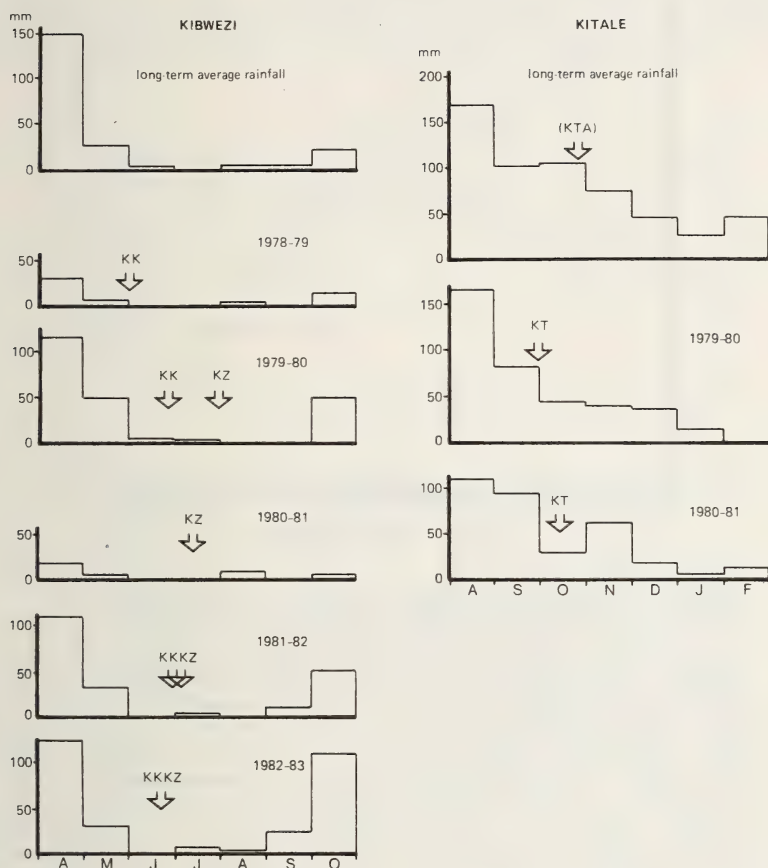


Fig. 1. Mean egg laying dates compared to monthly rainfall. Left: Kiboko (KK) and Kibwezi (KZ) with rainfall for Kibwezi (Fenner 1982). Right: Kitale (KT) with Kitale rainfall; KTA = average egg laying date at Kitale for five previous years (Pomeroy 1978b, Fig. 4), with long-term average rainfall data (courtesy Kenya Meteorological Department).

rains, as seen in 1979-80 and 1980-81 at Kitale, and 1978-79 at Kiboko-Kibwezi, allowed breeding to start sooner. Thus one might also have expected earlier breeding at Kibwezi in 1980-81, when in fact the timing was similar to other, wetter, years. This might suggest that the birds had come to Kibwezi from a higher rainfall area, just prior to breeding. That they do indeed come from else-

where seems certain, because there are very few if any Marabous in the Kibwezi area between January and May.

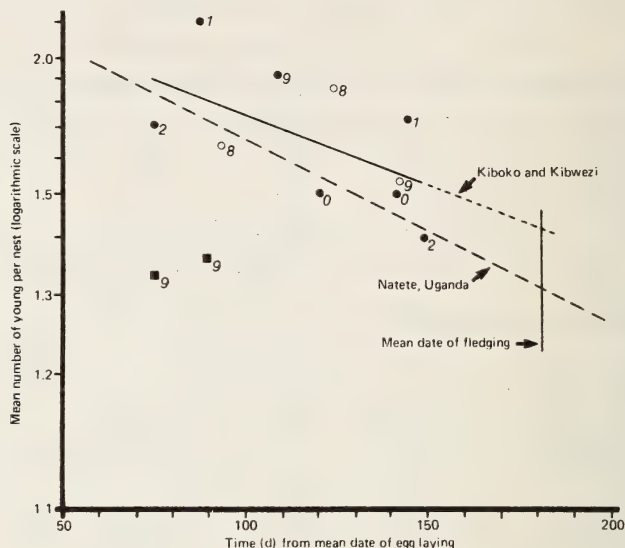


Fig. 2. Numbers of young per surviving nest at Kiboko (O) and Kibwezi (●) (on two occasions in some years) and at various stages of the nestling period: the time scale represents days after the mean date of egg laying. Two observations from Kitale (■) are also shown. The years are: 8 = 78/9, 9 = 79/80, 0 = 80/1, 1 = 81/2, 2 = 82/3. The upper calculated regression (note logarithmic scale on vertical axis) is based upon the data for Kiboko and Kibwezi, and its equation is:

$$\log y = 0.38 - 0.00132x \quad (r = 0.586, P < 0.1)$$

The lower regression, included for comparison, is for Natete, Uganda (Pomeroy 1978c, Fig. 7). The mean date of egg laying is calculated from the appearance of the nestlings, and the average time of fledging is day 182 (Pomeroy 1978c).

BREEDING SUCCESS

From 1978-79 to 1982-83, I made several visits each season to the colonies at Kiboko and Kibwezi, to determine the total numbers of nests and to estimate the average numbers of young produced per nest - that is, the breeding success (Fig. 2). In general, the average numbers of young per nest decline as they get older, because some die in the nest or may even fall out. In Uganda (Pomeroy 1978c) and at

Kitale in Kenya (Kahl 1966), the average number of eggs laid is 2.7 per nest, but as Fig. 2 shows, only about 1.4 young per nest survive to the age of fledging at the Kiboko-Kibwezi colonies; and this figure excludes nests which failed early in the season. Nevertheless one pair at Kiboko reared three young to fledging in 1978-79.

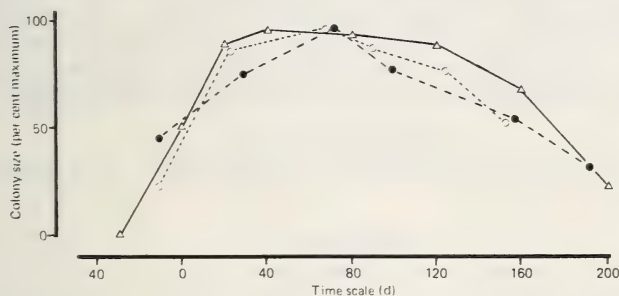


Fig. 3. The total number of nests in use at Kibwezi in 1980-81 (●) and 1981-82 (○) compared to the average for three years at Natete, Uganda (Δ: Pomeroy 1978c, Fig. 1(a)). The vertical scale shows the number of nests on a particular day compared to the total built, whilst the time scale is days from the mean egg laying date, as in Fig. 2.

The overall breeding success of the Kiboko-Kibwezi colonies is less than that implied by Fig. 2. This is because some nests fail completely. The proportion that do so can only be determined by frequent visits, as was done at Natete, Uganda (Fig. 3). Here, the overall success in three consecutive years was 0.7, 1.2 and 0.9 young per nest, an average of 0.9 for the colony as a whole. At Kiboko-Kibwezi, the numbers of nestlings per surviving nest were greater than at Natete (Fig. 2), yet more nests seem to have failed (Fig. 3). It is therefore likely that an overall figure of about 0.9 young per nest could be applied to Kiboko and Kibwezi too.

Breeding success at Kitale in 1979-80 and 1980-81 was significantly lower than for the other two Kenya colonies shown in Fig. 2. This may have contributed to the rapid decline in that colony in the following two years (see Table 1).

DISCUSSION

Marabous are gregarious, but away from their few breeding colonies their numbers in Kenya are quite low, rarely exceeding 50 at any one place. This contrasts with Uganda, where several hundreds were regularly seen at some fishing villages (Pomeroy 1973, 1977b). In Kenya, the largest numbers appear at roosts, as mentioned earlier: even in July, over 200 were recorded at one roost near Athi River (Evans *et al.* 1973).

The total Kenya breeding population is probably less than 300 pairs, whereas in Uganda more than 2000 were recorded in the 1970s (Pomeroy 1977a). Despite the very large numbers roosting at one site in Nairobi in 1979-80, the total population of this species in Kenya seems unlikely to be more than 1000-2000, with the highest numbers between December and March.

If one compares the numbers of pairs breeding at the only three colonies for which there are annual records from 1979 to 1982 (Table 1), the average number of nests at these colonies in 1979 and 1980 was 178; but in 1981 and 1982 it was 84.5, a decline of more than 50 per cent. The Marabou population in Kenya is apparently not stable, and further studies are likely to prove interesting.

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REQUEST FOR INFORMATION

THREATS TO THE WHITE STORK ON MIGRATION

In January 1986, WWF-Germany and ICBP started a joint project to investigate the threats to the White Stork *Ciconia ciconia* on its migration routes and in its wintering areas. Major aims of the project are:

- to analyse factors threatening the White Stork directly and indirectly in the different countries on its migration routes
- to analyse the extent of application of biocides and their direct and indirect effects on migrating White Storks
- to draw together a list of areas which are of major importance for migrating White Storks
- to produce comprehensive documentation containing results of the project and suggestions for an international conservation strategy for the species

Collaborators are needed who can submit information and observations from southern Europe, the Middle East and Africa. People interested in co-operating should contact the project leader as soon as possible for further details:

WWF-Germany/ICBP White Stork Project, Dr Holger Schulz, Am Lindenberg 1
D-3331 LELM, Federal Republic of Germany [tel: 05353/8005]

INTERACTIONS BETWEEN RESIDENT AND MIGRATORY WAGTAILS *MOTACILLA* SPP. IN ETHIOPIA - AN ECOLOGICAL CONUNDRUM

Stephanie J. Tyler and S.J. Ormerod

The co-existence of congeneric animals is frequently facilitated by factors which reduce competition for resources such as food, space or nest sites (see for example Branch 1976, Finlay & Berninger 1984, Hildrew & Edington 1979, Meserve 1976 and Schoener 1974). Lack (1971) reviewed many instances of such niche segregation between breeding birds; wherever ranges of habitats coincided, ecological isolation could occur by interspecific differences in micro-habitat occupation and/or feeding preferences (see Lack 1971, Perrins & Birkhead 1983). In some cases, direct competition results in interspecific aggression, mutual exclusion from breeding territories (e.g. Garcia 1983) and in 'niche-shifts' (e.g. Davis 1973, Alerstam *et al.* 1974). In other cases, breeding success may be impaired by the presence of close competitors (Minot 1981, Hogstedt 1980).

Little detailed attention has been given to interactions between Palaearctic migrants and congeneric residents in Africa (e.g. Lack 1971, Moreau 1972, Morel 1973). In Ethiopia, for example, the winter influx of Grey Wagtails *Motacilla cinerea*, Yellow Wagtails *M. flava* and White Wagtails *M. alba* leads to possible contacts with the resident African Pied *M. aguimp* and Mountain Wagtails *M. clara*. This paper reviews the distribution and habitat preferences shown by each species in Africa, particularly in Ethiopia. Where available, information is given on breeding biology and feeding ecology. Particular attention is given to interactions between *M. cinerea* and *M. clara*; these species show similar habitat preferences and co-occur at a time when *M. clara* is breeding.

SPECIES DISTRIBUTIONS

General distributions within Africa of resident and migrant *Motacilla* spp. were drawn from the literature. More specific accounts for Ethiopia were based on fieldwork between October 1973 and January 1977 mostly in the central province of Shewa. This province includes habitats ranging from desert at 1000m O.D., rift valley lakes with *Acacia* woodland and savanna, and montane forest and moorland at over 3000m.

Motacilla aguimp African Pied Wagtail

African distribution

The commonest wagtail in Africa, *M. aguimp* has a similar range to *M. clara* (see below). It occurs throughout the continent south of the Sahara, though it is absent from the Somali Republic and from the extreme west of Cape Province (Mackworth-Praed & Grant 1957). Several authors have noted an association with dwellings and settlements (Belcher 1930, Vincent 1935, Priest 1935, Benson 1940, Mackworth-Praed & Grant 1957, Elgood & Sibley 1964). It occurs throughout an altitudinal range from sea level to 3000m and generally, alongside pools, ponds, swamps and particularly along larger rivers.

Scopus 10: 10-19, March 1986

Distribution in Ethiopia

In Ethiopia, *M. aguimp* occurs locally everywhere except in the south-east (Urban & Brown 1971) and extreme north (Smith 1955). Most observations were on large but fast-flowing rivers below 2000m (see also Cheeseman 1935, Smith 1957, Olson 1976). Breeding abundances of one pair per 1.6km (Smith 1957) and up to four pairs per kilometre (this study) have been recorded.

Breeding Biology

Most breeding records were between February and July prior to the rains, and most clutches were of two to three eggs (c.f. Belcher 1930 and Priest 1935 who noted clutches of four to five eggs in southern Africa). Nest sites included rock ledges, holes in walls and bridge sites.

Motacilla clara Mountain Wagtail*African Distribution*

From Liberia eastwards to Ethiopia; southwards to Cape Province *M.c. torrentium* and *M.c. chapini* have extensive ranges in Africa but the longer-winged nominate race is confined to Ethiopia. Over most of its range, *M. clara* favours small, often forested, fast-flowing mountain streams between 1250 and 3000m; some observations at lower altitudes may reflect seasonal movements (Belcher 1930, Benson 1940, Winterbottom 1964, Serle 1950, Elgood 1973, Britton 1980).

Distribution in Ethiopia

In Ethiopia, *M. clara* is a montane species and there is no evidence for any seasonal movement to lower altitudes. It occurs on small, wooded highland rivers and streams from 1500 to 3400m both north and south of the Rift Valley. In Shewa, it is found on those stretches of river favoured by the Abyssinian Black Duck *Anas sparsa*. In southern Tigre it was common and Olson (1976) found it frequent on the wooded streams in the Tana Basin, the Tacazze River and western escarpment of Begemder and Simien Province. In northern Tigre it was only observed twice between January and May 1976 despite searches along apparently suitable watercourses. These two records were on a wooded stream near Samre, southwest of Makalle, and near Enticho close to the Eritrean border. K. Thorogood (pers. comm.) did not record *M. clara* in northern Tigre from March 1973 to September 1975, and it was not seen in Eritrea (Smith 1955, 1957, this study).

Breeding Biology

Breeding was recorded in January to April and from September to November (c.f. Moreau 1949: all year; Winterbottom 1964: August to December). Forty-five nest sites included cliff ledges, banks overhanging water, bankside roots, holes in walls and recesses in bridges; generally similar to those used by *M. cinerea* in Britain (Tyler 1972).

Six nests contained clutches of 2 eggs, although two parties of 3 fledged young were seen. Other studies elsewhere in Africa indicate a clutch size of 2-3 (occasionally 4) (Moreau 1949, Belcher 1930, Winterbottom 1936, 1964, Piper 1982). One nest which was regularly observed gave an incubation period of 13 days (c.f. Moreau 1949: 14

days) and a fledging period of 15-16 days. Juvenile dependency varied from 14-30 days.

Food and feeding behaviour

Food items taken by *M. clara* included larval and adult dipterans, other winged insects such as mayflies and dragonflies and larvae or nymphs of aquatic invertebrates.

Birds fed by flycatching over water, picking and run-picking from the river edge or from rocks. Birds were also observed walking in shallow water and catching tadpoles, and one pair when feeding juveniles caught numerous large dragonfly nymphs; each was clubbed against a rock prior to being fed to the young.

M. cinerea Grey Wagtail

African Distribution

In Africa *M. cinerea* breeds only in Morocco where it is abundant up to 9000 feet (2700m) (Chalworth-Muster 1939).

The main wintering area is in the northeast and east, some birds crossing the equator. *M. cinerea* has been recorded regularly from Malawi (Benson *et al.* 1971, Benson & Benson 1977), occasionally from southern Zambia and Natal and recently from Zimbabwe (Williams 1984). Few occur in West Africa but some do penetrate to 2°N in northeastern Zaire and appear along streams and tracks in forests (Moreau 1972). In the Sudan, Ethiopia, Uganda, Kenya and northeastern Tanzania, birds are widespread in the winter on fast-flowing, wooded mountain streams from 1500 to 3000m. Further north they occur at low altitudes in oases of the Sahara and in the Arabian Gulf.

Distribution in Ethiopia

M. cinerea was found to be common in Ethiopia on those highland streams and rivers favoured by *M. clara*. It occurred also in a variety of other habitats such as around farms, sewage pits, forest tracks, moist grassland and along larger rivers. It was most frequent between 1500 and 3000m, but was observed in the Simien Mountains at almost 4000m and in Tigre province at the foot of the escarpment on a lowland river below 1000m. Friedmann (1937) recorded *M. cinerea* in Abyssinia only above 4000 feet (1220m) and quoted Mearns as finding it as high as 10 000 feet (3050m). In Eritrea Smith (1957) found *M. cinerea* to be a regular winter visitor to dams, escarpment streams and, in Dancalia (below 500m), he often observed it far from water in *Combretum* woodland and sometimes dry *Acacia*.

M. cinerea was one of the earliest Palaearctic migrants to arrive in Ethiopia. Daily observations in a wadi in northeast Eritrea from June 1976 to January 1977 showed the first *M. cinerea* on 12 August (Tyler 1978). One to three birds were noted on most days up to 10 October, with a maximum of eight birds on an 800m stretch of a small stream flowing down the wadi. Two birds on 27 October were the last recorded. In eastern Ethiopia Dr J.S. Ash (pers. comm.) recorded an early migrant on 1 September but in the Shewan highlands birds were not seen until mid-September with the first record in Addis Ababa on

18 September (this study). In the spring, they left the highlands during March although some remained until early April. Smith's (1957) latest records were in Eritrea on 13 April.

Food and feeding behaviour

M. cinerea fed in the same manner as *M. clara* and appeared to be taking the same prey items - benthic invertebrates and adult winged insects. In Eritrea birds were observed feeding in a very shallow stream, pecking repeatedly at blackfly *Simulium* larvae which were abundant.

Motacilla alba White Wagtail

African Distribution

The Palaearctic White Wagtail occurs across northern tropical Africa during the northern winter with a few birds reaching Zambia and Malawi (Benson et al. 1971). Numbers appear to be relatively few in West Africa (Moreau 1972).

Distribution in Ethiopia

Ethiopia is one of the main wintering areas; *M. alba* is common from the coast to over 2500m between October and March. The earliest dates of arrival are 14 October (Smith 1957) and 20 October (Tyler 1978) in Eritrea; the latest record is 8 April (Ash 1980).

M. alba utilizes a greater range of habitats than other species of wagtail. It may be found around buildings in towns and villages, by lakes, streams and rivers, muddy pools, irrigation ditches, vegetable patches and farmyards, desert wells and damp grassland, either singly or in small groups. A flock of up to 19 birds wintered in a wadi in northeast Eritrea in 1976/77 (Tyler 1978).

Motacilla flava Yellow Wagtail

African Distribution

This species winters across Africa and as far south as Zambia with different races favouring different parts of the continent (see Wood 1976). Sudan, Ethiopia and northern Kenya are the main wintering area for several races.

Distribution in Ethiopia

A number of races occur throughout Ethiopia between late August and June; some, such as *M.f. lutea*, are passage migrants. Urban & Brown (1971) accepted six races - *flavissima*, *flava*, *beema*, *thunbergi*, *lutea* and *feldegg*. Previous *flavissima* records may, however, have been confused with *lutea* (see Moreau 1972 and Pearson & Backhurst 1973). Smith (1957) determined five races in Eritrea - *flava* (including *beema* and *dobrowski*, *lutea*, *thunbergi*, *feldegg* and *superciliaris*). He found the last to be fairly common on passage along the coastal plain between February and April; Pain, Tyler & Vittery (1975) recorded one bird in Addis Ababa. Mixed flocks of *flava*, *thunbergi* and *feldegg* occurred with *feldegg* often predominating on the coastal plain and on the plateau in Eritrea (Smith 1957). *M.f. feldegg* was also common in Tigre, sometimes occurring singly

alongside open streams (this study) but further south *M.f. flava* was most abundant. Wallace (1955) noted that *feldegg* preferred wetter habitats than other races.

Yellow Wagtails occurred in large numbers on the highland plateau feeding in flocks on open grassland, usually with herds of cattle or goats or flocks of sheep; they also accompanied domestic animals or game in savanna and around lake shores in the Rift Valley. At the edge of Koko Reservoir in the northern Rift Valley, they fed alongside Red-throated Pipits *Anthus cervinus* and Richard's Pipits *A. novaeseelandiae*. Associations of *M. flava*, *A. cervinus* and Ortolan Buntings *Emberiza hortulana* were recorded by slow-flowing highland rivers and on other muddy ground, where these species came into contact with *M. alba*. Wood (1976) noted that in Nigeria, *A. cervinus* was the only real competitor of *M. flava*.

SPECIES INTERACTIONS WITHIN ETHIOPIA

The presence in Ethiopia of five *Motacilla* species during the northern winter provides for possible interactions. At least for *M. aquimp*, *M. alba* and *M. flava*, there is sufficient habitat segregation and plasticity to prevent inter-specific competition (Table 1). Casual observations, however, indicated that *M. clara* and *M. cinerea* were less clearly segregated by habitat or feeding behaviour and a more specific study on these species was initiated.

TABLE 1
Habitat preferences shown by resident and migrant Motacilla spp. in Ethiopia during the northern winter

Species	Preferred habitat	altitudinal distribution
<i>M. aquimp</i>	Lakes, pools, larger rivers, occasionally pastures	50-2000 m
<i>M. clara</i>	Small, wooded high-land rivers	1500-3500 m
<i>M. cinerea</i>	Small, wooded high-land rivers, occasionally other wet habitats	1500-3000 m
<i>M. alba</i>	Highly plastic; towns, villages and all wet habitats	0-2500 m
<i>M. flava</i>	Drier grassland than <i>M. alba</i> or <i>M. aquimp</i> ; often with domestic stock	0-3000 m

Detailed observations were made between March 1974 and March 1975 of territoriality and interactions between *M. clara* and *M. cinerea*. Most data were from three highland rivers (1750-2500m) supplemented by data from streams at Sebeta and Meta west of Addis Ababa (Table 2).

TABLE 2
*Territories held by M. clara and M. cinerea on
some Ethiopian rivers*

River	Length surveyed (m)	<i>M. clara</i>		<i>M. cinerea</i>	
		Pairs	Average length of territory	Individuals	Average length of territory
Akaki (Addis Ababa)	1300	2	650	7	186
Ambo (120 km west of Addis)	1600	6-7	228-267	6	267
Bole valley	2500	9-12	208-277	12	208
Meta (west of Addis)	600	1	600	5	120
Sebeta (west of Addis)	700	1	700	4	125
Romanat Falls (Tigre)	600	-	-	3	200

There was some evidence that the two species were partly mutually exclusive, with *M. cinerea* occurring in greatest numbers where *M. clara* was relatively scarce (Fig. 1). Nevertheless, few interspecific territorial encounters were witnessed and individuals from each species frequently fed in close proximity, even on the same rock. In the Bole Valley during March 1975, mixed feeding groups consisting of four to five *M. clara* (fledged young plus adults) and one *M. cinerea* were commonly seen. Other accounts confirm the tolerance shown between these species (Winterbottom 1964, Moreau 1972, Williams 1984), although they are strongly intraspecifically aggressive.

DISCUSSION

At least for three of the five *Motacilla* spp. present in Ethiopia during the northern winter, fairly clear habitat preferences prevent any direct competition (Table 1). By contrast, the apparently close association between *M. clara* and *M. cinerea*, without obvious interspecific aggression, represents a subject for further research. Most breeding pairs of *M. clara* tolerated *M. cinerea* within their territories. Moreover, *M. clara* is structurally very similar to *M. cinerea*

and its slightly larger bill is probably not sufficiently different for the two to coexist and not compete for the same food (B. Wood, pers. comm.).

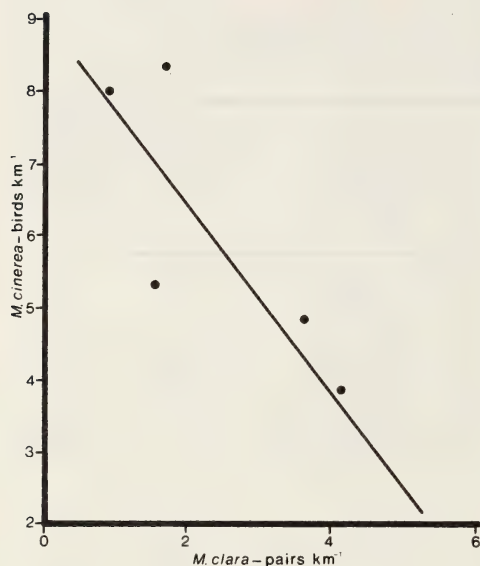


Fig. 1. The abundances of breeding *M. clara* and migrant *M. cinerea* along five rivers in Ethiopia. The line was fitted by eye.

Moreau (1966) suggested that Palaearctic migrants might be accommodated within the Afrotropical region during the northern winter due to a seasonal superabundance of food. Other breeding passerines have been shown to coexist where food is abundant despite showing little ecological segregation (Blancher & Robertson 1984). Alternatively, the available food may be non-depressible (Charnov et al. 1976). Whilst few quantitative data are available on the benthic invertebrates of highland streams in Ethiopia, those in regions with similar climate and physiography have been described (Williams & Hynes 1971, Hynes 1975). The greatest invertebrate abundances accompany the end of the rainy season and groups such as the Simuliidae predominate. Consequently, an abundant and readily available food supply is likely to occur when *M. cinerea* arrives in Ethiopia and when *M. clara* is breeding. Nevertheless, some degree of mutual exclusion (Fig. 1) seemed apparent and the breeding performance of *M. clara* should be compared between territories with and without co-occurring *M. cinerea* (Hogstedt 1980, Minot 1981). Additional quantitative data are also required on the food taken by each species.

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REQUEST FOR INFORMATION

Between 1970 and 1975 I ringed almost 2000 birds in the Kakamega Forest and adjacent parts of the South Nandi Forest. The vast majority were resident forest species and many were controlled frequently. Since leaving East Africa eleven years ago I have received almost no information on the retrapping of these birds. However, I know that a number of ornithologists have been active with mist nets in the area since that time and could not avoid capturing some of my birds. I would have expected anyone capturing a ringed bird to be curious enough to report it to the Ringing Organizer to discover the details of its original capture. This seems not to have happened. That some of the birds are almost certainly alive in the area is evidenced by the fact that in January 1985 Dr Simon Cox captured one of my birds first ringed in 1974, and one ringed by D.A. Zimmerman in 1965, in just a few hours of netting.

Anyone who has information is encouraged to contact me at the address given. Any retrap details will be very gratefully received and acknowledged, and I will supply the original ringing details.

Clive F. Mann, P.O. Box 2359, Bandar Seri Begawan, State of Brunei.

BREEDING RECORDS OF SOME TANZANIAN BIRDS

N.R. Fuggles-Couchman

In 1984 the author submitted all his breeding records of Tanzanian birds, collected between 1930 and 1962, to Mr P.B. Taylor for inclusion in the East Africa Natural History Society Nest Record Scheme. The result has been to highlight a number of important and interesting records of birds for which there are at present no cards for East Africa, or no cards for Tanzania, or only one or two in each case. They also include the first description of the nest of Moreau's Sunbird *Nectarinia moreaui* and the first East African breeding records of the Morning Thrush *Cichladusa arquata* and Crested Flycatcher *Trochocercus cyanomelas*.

The majority of these records have not been published before, others were published some years ago in the body of papers on other subjects, or in journals not confined to matters of ornithological interest, e.g. *Tanganyika Notes and Records*. As some of those available do not appear to have been used by Brown & Britton (1980) when compiling *The Breeding Seasons of East African Birds*, it is thought worthwhile to include them here.

Unfortunately, some of the records presented in this paper are based only on the state of gonads which, following the criteria of Brown & Britton (1980), can only be indicative of the breeding season of the species. For those species where records are sparse or non-existent, it has been considered worth including them here.

Podiceps nigricollis Black-necked Grebe

Brown & Britton (1980) list 18 records, all from Region D, covering the months May to August inclusive, suggesting a breeding season after the long rains. After the very heavy short rains of 1961, a nest with 2 eggs was found on 7 January 1962 at Eluanata Dam, Masailand, in Region D. The dam had filled completely at a season when it was normally reduced to a small area of water immediately above the dam wall. This species and the many other species of waterfowl nesting there in January 1962 demonstrate the birds' ability to take timely advantage of suitable conditions for breeding when they occur.

Oxyura maccoa Maccoa Duck

There are only six records for this species in Brown & Britton (1980) all from Region D, and scattered through the months March-October. In addition to a November record from Arusha National Park (Hazel A. Britton 1981), three nests with eggs were found at Eluanata Dam on 27 February 1962, extending the breeding season to the short rains and the dry season before the long rains.

Sarkidiornis melanotos Knob-billed Goose

As there is only one record for Region D in Brown & Britton (1980), for the month of February, it is worth noting two nests with eggs on 27 February 1962 on Eluanata Dam, and another record of a female with

egg in shell in the oviduct on 28 February 1952, from Kilingali, Kilosa.

Coturnix coturnix Quail

Records of two nests from the Ar dai Plains, northern Tanzania, on 28 June 1944 (Fuggles-Couchman & Elliott 1946) have provided data for the first cards from Tanzania in the Nest Record Scheme.

Fulica cristata Red-knobbed Coot

The numerous records available to Brown & Britton (1980) from Region D show a clear peak in May-July, with a secondary peak in September-October, with only one record for January. However, this is another species which will take advantage of suitable conditions for breeding when they occur. In January 1962 it was in full breeding activity on Eluanata Dam, northern Tanzania. Details were taken of three nests, but at least another six nests with eggs were found.

Rostratula benghalensis Painted Snipe

A nest with 4 eggs at Lake Manyara on 3 August 1959 has provided data for the first card for this species from Tanzania in the Nest Record Scheme. This nest is the same as that recorded by Thomas (1960).

Streptopelia decipiens Mourning Dove

Brown & Britton (1980) have five records for this species from Region C, all for May, in the early dry season. A nest found on 21 March 1957, SW of Dodoma in Region C, contained one almost fully fledged nestling and one addled egg, and the breeding season would have coincided with the main rains. This record provides the first card from Tanzania for this species.

Oena capensis Namaqua Dove

A nest with 2 eggs, found near Dar es Salaam on 2 July 1936, adds to the scanty records for this species in Brown & Britton (1980), and provides further evidence of a dry season breeding season.

Tauraco porphyreolophus Violet-crested Turaco

There are only two East African breeding records for this species, both from Tanzania (Taylor, pers. comm.) from near Iringa in Region C (Brown & Britton 1980). A female collected at Kidete, northern Kilosa, in Region D on 3 March 1934 contained a well-formed egg in the oviduct, and provides a first record from that Region.

Merops boehmi Boehm's Bee-eater

This species appears to have been overlooked by Brown & Britton (1980) and there is no card in the Nest Record Scheme from East Africa. A female collected on 17 September 1937 on the edge of the gallery forest at Mvuh, southern Morogoro, had a well-developed egg in the oviduct. The date of this record falls within the peak season for other *Merops* spp. in Region D, especially the Little Bee-eater *M. pusillus*.

Merops hirundineus Swallow-tailed Bee-eater

There is only one dated record in Brown & Britton (1980), which is from Region A. Although only based on the condition of the gonads, a record from Region D should be noted. A male, with enlarged gonads

was collected south of Dar es Salaam on 3 October 1935, suggesting breeding towards the end of the dry season between the long and short rains; c.f. the suggestion in Brown & Britton (1980) that egg-laying in Region A may be at the end of the dry season.

Tockus albaterminatus Crowned Hornbill

Only four records from Region D are given by Brown & Britton (1980) in February, September (2) and November, and in Regions D and E. Together the records show a definite preference for the dry season. A record from the western foothills of the Nguru Mts, of a pair feeding young at the nest on 20 July 1931, follows the same pattern, although rather earlier in the dry season.

Lybius torquatus Black-collared Barbet

Up to 1982 there were only three dated East African breeding records (Brown & Britton 1980, Taylor 1983b), one of which is from Tanzania, from Tatanda in Region C. Brown & Britton (1980) refer to breeding in Eastern Tanzania, possibly in Region D, in January. This is believed to refer to a record of a pair at a nesthole presumed to contain young, as an adult was seen to leave the nest carrying a faecal sac (Fuggles-Couchman 1939). This record was from near Dar es Salaam, Region D.

Dendropicos fuscescens Cardinal Woodpecker

A pair feeding young at the nest on 25 December 1953, at Morningside, Morogoro, and a Nest Record card from Arusha (Taylor 1983b), both in Region D, together with a card from Mpanda, Region C (Hazel A. Britton 1981), both for December, suggest that in Tanzania this species shows a great preference for the period covering the latter part of the short rains, rather than the dry season as suggested by Brown & Britton (1980).

Smithornis capensis African Broadbill

Brown & Britton (1980) have only one record from Region D, for December. Records based on the condition of gonads of three males collected (a) in Dar es Salaam district, 23 January 1936, (b) Kingolwira, Morogoro, 11 February 1938 and (c) Mbulumbulu, northern Tanzania, 18 November 1943, suggest a breeding season in Region D covering the latter part of the short rains into the dry season following them.

Parus rufiventris Rufous-bellied Tit

The only card for this species for East Africa is from Tanzania (P.B. Taylor, pers. comm.), from Arusha National Park, Region D, for April (Hazel A. Britton 1980). A male collected at Kingolwira, Morogoro on 4 August 1938 had enlarged gonads and is worth noting.

Alcippe abyssinica African Hill Babbler

There were no East African breeding records of this species up to the end of 1982 (Brown & Britton 1980, Taylor 1983a, b). Breeding has been noted at the Kikuyu Escarpment Forest, Kenya (Region D), from November to January in 1984-86, in the period between the short and long rains (P.B. Taylor, *in litt.*). An indication of the possible breeding season in Region C is provided by a male, collected in

gallery forest at 1990 m on Mt Hanang on 4 February 1946, which had much enlarged gonads and was in full song.

Andropadus importunus Zanzibar Sombre Greenbul

A nest with 2 eggs was found in coastal scrub near Dar es Salaam on 8 January 1956. Brown & Britton (1980) list only six records from Region D, and only one falling in January.

Cichladusa arquata Morning Thrush

A nest containing 2 eggs, found on 20 May 1952, is the first East African record for this species. The nest was placed on the capital of a pillar in the verandah of the Old Boma, Morogoro.

Turdus libonyanus Kurrichane Thrush

There is no record in Brown & Britton (1980) for this species from Region D. A male in full song and with much enlarged gonads was collected at Msongozi, Morogoro district, on 12 October 1937, suggesting a breeding season similar to that for this species in Region C.

Acrocephalus gracilirostris Lesser Swamp Warbler

As there are no cards in the Nest Record Scheme from Tanzania, it is worth noting several new nests in scattered patches of *Cyperus auratus* in Eluanata Dam on 7 January 1962. No eggs were found.

Apalis alticola Brown-headed Apalis

There are no records for this species in Brown & Britton (1980), nor is it included in their lists of birds falling into Categories 1 and 2. It is therefore of interest to note a male, with much enlarged gonads, collected on 4 February in gallery forest on the NE slopes of Mt Hanang, at 2100 m. Mackworth-Praed & Grant (1955) give the breeding season in Central Tanzania as probably October-February.

Chloropeta similis Mountain Yellow Warbler

Brown & Britton (1980) give only three records for this species, in July, August and November, and all from Region D. A bird seen carrying nesting material at Mbulumbulu on 16 October 1943 is worth noting.

Macrosphenus kretschmeri Kretschmer's Longbill

There is only one East African record (Brown & Britton 1980) for this species, in April in Region D. It is therefore worth noting a male in full song, and with much enlarged gonads, collected in the Pugu Hills, Dar es Salaam, on 14 April 1936.

Batis mixta Forest Batis

There are only four East African breeding records (P.B. Taylor pers. comm.) and none from Tanzania, although Mackworth-Praed & Grant (1955) give the recorded breeding for Tanzania as October-December. A nest found in rain forest at Bunduki, western Uluguru Mts on 23 December 1956, and containing 2 eggs, appears to be a first record for Tanzania.

Trochocercus albonotatus White-tailed Crested Flycatcher

Brown & Britton (1980) give only five records for this species in East Africa, all from Amani, Tanzania, and all in October. A record

from another Tanzanian locality, in the northern Uluguru Mts near Morogoro, can be added: a pair was watched finishing building a nest on 26 December 1953. At the Kikuyu Escarpment forest, Kenya, breeding has been noted in September-October and December-March, these months representing the pre-short rains dry period and the dry spell between short and long rains; there are no records for the wet month of November (P.B. Taylor, *in litt.*).

Trochocercus cyanomelas Crested Flycatcher

There are no East African breeding records for this species (P.B. Taylor, pers. comm.). It is therefore worth noting a male, with much enlarged gonads, collected in rain forest at Mbulumbulu on 16 November 1942. The date indicates a breeding season in the short rains, c.f. Brown & Britton (1980) for *T. albonotatus* above.

Anthus lineiventris Striped Pipit

A nest and eggs found on 3 July 1958 near Bolisa, Kondoa Irangi, is of special interest, as it is only the second breeding record from East Africa, and the first record of eggs. The first published record was also from Tanzania, from the Nguru Mts, Region D, where J.S.S. Beesley recorded large young being fed in the nest in late December 1966 (P.B. Taylor, pers. comm.). There were 3 eggs, of a pale bluish-white ground colour, heavily spotted with sepia, with a distinct band near the larger end.

Tchagra minuta Marsh Tchagra

A male was seen feeding an immature female, later collected, on 9 May 1934, at Chonwe, Uvidunda Mts, southern Kilosa, at 1550m. This is the first breeding record from Region D in East Africa. Seven records from Regions A and B in Brown & Britton (1980) indicate breeding during the rains, as was the case with the Uvidunda record.

Lanius cabanisi Long-tailed Fiscal

As there is no June record in Brown & Britton (1980) for this species in Region D it is worth recording a bird incubating on 28 June 1942 at Kileo, Pare district.

Nectarinia moreau Moreau's Sunbird

The nest of this species appears still to be undescribed (P.B. Taylor pers. comm.). On 26 December 1952 a nest was found on the edge of rain forest at Masenge, Ukaguru Mts, Kilosa district, at 1800m. That locality falls into Region D. The nest was a small domed purse, attached to an upright stem of a small shrub, 2m from the ground. There was an entrance hole near the top of the nest, which was built almost entirely of dry grasses, with no embellishment. The nest contained two half-fledged nestlings.

Ploceus bicolor Dark-backed Weaver

There are only two records for this species given by Brown & Britton (1980), only one of which is from Region D, for the month of August. Records of nest building on 25 May 1939, on the edge of forest in the Nguru Mts, and a pair constantly entering and leaving a nest on the edge of the Pugu Forest, Dar es Salaam, on 12 December 1953, suggest breeding towards the end of the long and short rains.

Ploceus jacksoni Golden-backed Weaver

While the breeding season of this species in Region D is very well documented (Brown & Britton 1980), there are no records outside the long rains. It is therefore worth noting two records from the northern province, the first of a colony at Eluanata Dam on 7 January 1962 with eggs, and the second, on 20 February 1959, of an active colony which could not be closely examined, at Lake Babati, Mbulu district, which may lie in Region C.

Euplectes afer Yellow-crowned Bishop

Records in Brown & Britton (1980) from Region D suggest a breeding season mainly in the long rains May-June. Only one record is given for January and it is worth noting a nest with 2 eggs found on 1 January 1962 at Eluanata Dam, northern Tanzania.

Euplectes nigroventris Zanzibar Red Bishop

The sixteen breeding season records from Region D given by Brown & Britton (1980) show no well-defined season, although attention is drawn to the fact that the months with more than one colony are all in the rains.

The author, when investigating the breeding ecology of this species and the Black-winged Red Bishop *E. hordeaceus*, which were nesting in adjacent and intermingled territories (Fuggles-Couchman 1943), recorded 14 nests of *E. nigroventris* containing eggs in the period April-June, during the latter half of the long rains and into the early dry season. Monthly totals of new nests with eggs were: April 5; May 4; June 5. These observations were made in Morogoro. Three other colonies recorded elsewhere were found on 28 January at Kilingali, Kilosa and on 24 and 30 April, both at Msasani, Dar es Salaam.

While *E. nigroventris* will use small shrubs in which to build, as in the case of the January and February records, and is therefore not entirely dependent on the growth of tall grasses to the same extent as *E. hordeaceus*, the breeding season of the former species does appear to peak in the long rains.

Cryptospiza reichenovii Red-faced Crimson-wing

There are only two East African records for this species in Brown & Britton (1980), both from Region B and both for the month of March. A pair was watched building a nest in creepers overhanging a small pool in the Lengopiron River, on the eastern edge of the Crater Highlands in Region D, on 2 February 1945. The nest was about half-completed and the dead leaves, dry grass and leaf skeletons used in its construction gave it already the appearance of an old nest.

Linurgus olivaceus Oriole Finch

There still appears to be no breeding record of this species in East Africa, so that it may be worth drawing attention here to a male, collected on 4 July in forest on Monduli Mt at 1850m, which had much enlarged gonads (Fuggles-Couchman & Elliott 1946).

Serinus canicollis Yellow-crowned Canary

A male with much enlarged gonads was collected on 7 February 1946 on

the NE slopes of Mt Hanang at 2100 m. Judging from the description of the area covered by Region D in Tanzania (Brown & Britton 1980), Mt Hanang almost certainly lies within Region C, and this record is the first for this species from that Region.

ACKNOWLEDGEMENT

The author is much indebted to Mr P.B. Taylor, organizer of the EANHS Nest Record Scheme, for his help in identifying the most interesting of the records submitted to him by the author, for checking the sources of some of the records in Brown & Britton (1980), and for other help in the preparation of this paper.

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(Received 15 January 1986)

ELSAMERE CONSERVATION CENTRE, NAIVASHA

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SHORT COMMUNICATIONS

PALAEARCTIC MIGRANTS OBSERVED IN THE OMO RIVER VALLEY,
SW ETHIOPIA, DURING OCTOBER-NOVEMBER 1984

Observations of the Marsh Warbler *Acrocephalus palustris*, the Sprosser *Luscinia luscinia* and some other migrant passerines have shown that these species migrate from Europe to SE Africa from Kenya southwards, taking about 5 months for the journey. The migration route of many of these birds seems to lie across the Red Sea coast, and through Ethiopia and central and SE Kenya (see e.g. Pearson & Backhurst 1976, Nikolaus 1983). The main Sudan immigration is during August-September, but birds reach Kenya only during November and December. The routes followed by these birds through Ethiopia and their main areas of stopover during September, October and November are still poorly known. Birds moving south from the Red Sea could reach central Kenya either via the Ethiopian rift valley or through the Western Ethiopian highlands. In the case of the Marsh Warbler in particular, the importance of Western Ethiopia as an autumn stopover area has been suggested (Dowsett-Lemaire 1979, Nikolaus & Pearson 1982). Migration from W Ethiopia to central Ethiopia could involve heavy autumn movements as far west as the Omo River, and since I had the opportunity of participating in an ecological survey along this river from 5 October to 24 November 1984, I made a point of recording and searching carefully for Palaearctic migrants. The river section travelled was from Gibe Bridge (8:13 N, 37:35 E) to Carro (5:40 N, 35:50 E). The upper part of this was in the W highlands; the lower part through semi-arid grasslands to Lake Turkana. Mist nets (usually totalling about 72 m) were used on twelve of the 51 expedition days, usually sited along hippotamus trails within 10 km of the river.

Of the 54 birds caught only three were Palaearctic migrants, a Sprosser on 6 October at 8:13 N, 37:35 E and a Nightingale *Luscinia megarhynchos* and a Willow Warbler *Phylloscopus trochilus* on 16 November at 5:50 N, 35:38 E. No migrant warblers, shrikes, flycatchers or nightingales were observed on walks of about 15 km into the highlands to the west and east of the river, or in the riverside vegetation. Apart from Common Sandpipers *Actitis hypoleucos*, which were abundant along the whole river, and small numbers of Wood Sandpipers *Tringa glareola* and Marsh Sandpipers *T. stagnatilis*, the only Palaearctic birds seen were a single Little Stint *Calidris minuta*, a lone Temminck's Stint *C. temminckii* at 6:40 N, 37:52 E, two flocks of Eurasian Bee-eaters *Merops apiaster* in the W highlands during the first week of October, single White Wagtail *Motacilla alba* and Grey Wagtail *M. cinerea* at about 6 degrees N, and migrating birds of prey. On 21 and 23 October, large flocks of birds of prey crossed the river at 37 N, 37:11 E. As well as 100 Tawny Eagles *Aquila rapax*, 50 Greater or Lesser Spotted Eagles *A. clanga/pomarina* and 7 possible Long-legged Buzzards *Buteo rufinus* were seen soaring on thermals and moving south.

The seeming lack of Palaearctic migrant passerines along the Omo River would imply that the main migration route from Ethiopian stop-over areas to central Kenya must lie elsewhere, presumably further east. If heavy movement were taking place overhead, appreciable numbers of birds would be expected to come to ground in the attractive cover along the river. The search for migration routes used by Palaearctic passerines across Ethiopia remains an inviting challenge. Further surveys should perhaps be conducted in Sidamo, Ilbabar and Kefa Provinces and in the rift valley.

ACKNOWLEDGEMENTS

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- C. Dustin Becker, Orion Cottage, Coton Road, Grantchester, Cambridge CB3 9NX, England. Received 23 January 1985, Revised 23 January 1986
- Scopus* 10: 27-28, March 1986

A SECOND RECORD OF JOUANIN'S PETREL *BULWERIA FALLAX* FROM KENYA

On 9 December 1985 my young son and friends rescued an all-dark, medium-sized petrel from the attentions of a dog on the beach fronting the Driftwood Club, Malindi, Kenya (3:13 S, 40:07 E). The bird, although docile in the hand, appeared reasonably lively, so measurements and photographs were taken quickly before releasing it. The usual problems associated with the identification of petrels in the field were, in this case, compounded by the close interest shown by a topless Italian woman who commanded my attention with her questions.

The description taken at the time was as follows: an all-black, medium-sized petrel. The greater and median coverts appeared to have slightly greyish tips, giving the bird a possible wingbar in flight. The wings were long and narrow, the tail appeared short and wedge-shaped. Bare parts: iris dark brown, bill black and complex, feet pinkish flesh, three toes with black claws, dark sides to outer webs. Measurements: overall length 31 cm, wingspan 83 cm, maximum width of wing 8 cm, wing-length (carpal joint to tip of longest primary) 24.5 cm, length of foot 4.2 cm, tarsus 3.2 cm, projection of tail beyond toes 3.5 cm, bill 3 cm.

The identification of the bird as a Jouanin's Petrel was based primarily on the measurements and feet colouration following Harrison (1983). Bulwer's Petrel *Bulweria bulwerii*, Wedge-tailed Shearwater *Puffinus pacificus*, Mascarene Petrel *Pterodroma aterrima* and Herald Petrel *P. arminjoniana* were all considered and dismissed, either because of size or feet colouration. The only query in my mind on the identification was that the tail did not appear to be as illustrated by Harrison (1983), the sole reference available at the time. Harrison shows the tail as very long and narrow projecting well beyond the feet. Feather wear may have been partly responsible for the appearance of the Malindi bird.

Jouanin's Petrel is a little-known species. It is endemic to the NW Indian Ocean but its breeding sites are unknown. Large concentrations occur off Kuria Muria in Arabia between March and August and breeding may occur there. Dispersal areas are also unknown but Harrison (1983) gives the limits as south to the equator and east to 58 degrees E. The only previous Kenya record was also from Malindi and also in December (13th, 1953) when a female was captured alive in seaweed (Britton 1980).

Unfortunately the 1985 bird could not fly off when released and died overnight. It is now lodged as a specimen in the National Museum, Nairobi.

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Bernard Boothroyd, c/o WLPW Consultants, Box 50569, Nairobi

Scopus 10: 28-29, March 1986

Received 19 February 1986

NOTES ON SOME UNUSUAL BIRDS OF THE BANGANGAI AREA, SOUTH WEST SUDAN

Between July 1980 and January 1983 an ecological survey was carried out in Bangangai Game Reserve, in south west Sudan, under the auspices of the New York Zoological Society (Hillman 1983). The aim of the survey was to gather as much information from the area as possible to aid in its future conservation and development. Particular note was made of birds as these are the one aspect of the fauna that is always evident in the thick habitat of the area.

Bangangai Game Reserve is situated on the Zaire-Sudan border, 4:52 N, 27:40 E, and is 500m above sea level. It is an area of forest/savannah mosaic, being the extreme northern border of the Zaire rain forest block. The rainfall averages 1400 mm annually, falling between March and October. Bangangai is situated between east and west Africa, and between forest and savannah habitats. It lies on the watershed between the Nile and Zaire rivers. Because of its location, Bangangai has a great variety of mammals and birds that are representative of both habitats and both sides of the continent.

Notes on the birds of Bangangai have previously been published by Woodman (1936, 1952a, b) and Traylor & Archer (1982). Cave & Macdonald (1955) give some birds specific to this area. G. Nikolaus (pers. comm.) produced a mimeographed list of the birds in the Bangangai area, but has not indicated how this was accumulated.

A total of 274 bird species have been recorded for the Bangangai area by the authors given above and ourselves. Our own records consist of accumulated observations on each species seen, including habitat occupied, evidence for breeding, feeding, etc., during the above period. Long periods were spent at saltlicks in the forest waiting for Bongo *Tragelaphus eurycerus* during which birds were observed. Mist-netting was also carried out enabling identification of some species, particularly those identified otherwise only on the basis of calls. Some Palaearctic migrants were also ringed.

The notes given here first relate to those species we have observed in Bangangai for which there are no previous records in Sudan to the best of our knowledge. These are followed by records of birds which are of significant interest for the area.

Species new to Sudan. Previous distribution from Mackworth-Præd & Grant (1952, 1955).

Urotriochis macrourus Long-tailed Hawk

Previously recorded from Cameroon to Zaire and west Uganda. A pair was seen entering a clearing at a saltlick in January 1982. A curious kite-like whistle was heard - *pi-wiyooo*.

Columba albinucha White-naped Pigeon

Previously recorded from the Bwamba area of west Uganda, this bird is distinct by the white nape patch. These were seen many times from March to October. They were usually seen at saltlick clearings, in the tall trees found around the edge. They were possibly roosting there as they were most often seen in the evening and early morning. They were usually in parties of 5 or more, and were seen with a group of Green Pigeons *Treron australis* on one occasion. They were not heard to call, but their flight was noisy.

Columba iriditorques Gabon Bronze-naped Pigeon

This is recorded from north and central Zaire, to Angola and Gabon. In March a young bird came to camp, entering the houses and remaining in the area for some days.

Bycanistes fistulator White-tailed Hornbill

Previously recorded in the Cameroon-Zaire-Uganda forest belt (Serle

1982), they were seen here in March and May. On one occasion they were seen flying fast through the upper canopy of primary gallery forest, and later in the forest/savannah patches which cover a large part of the area. They were also seen in clearings in parties of 15-20.

Tockus hartlaubi Black Dwarf Hornbill

This is known from Zaire and Uganda, and was seen in Bangangai in March, April and December. They were usually alone, sitting in the upper canopy of tall forest trees, though one was seen in low mango scrub near the track, and another near camp.

Ploceus tricolor Yellow-mantled Weaver

Previously recorded from north Angola, east Zaire and west Uganda, these were seen nesting in March and May, in the top of a tree (about 10m from the ground) at the edge of the forest. On the first occasion 3 nests were used, and on the second 2 nests.

Malimbus erythrogaster Red-bellied Malimbe

Known previously from east Zaire and west Uganda. In October and November Northern Masked Weavers *Ploceus taeniopterus* were nesting in large numbers in a tree above camp. The Red-bellied Malimbe on several occasions was seen to hang on to the nests and was then mobbed by the weaver males outside and the weaver sitting in the nest.

The following species are felt to be significant in that they illustrate range extensions of birds which are already known to appear in Sudan, or are rarely seen. Previous distribution is from Cave & Macdonald (1955)

Ciconia nigra Black Stork

This is an uncommon visitor to the Sudan, and was seen in Bangangai in the months of March and December. Sightings were associated with the grass burning.

Columba arquatrix Olive Pigeon

These are resident in the Imatongs area, and maybe in the Boma Hills, as they are fairly common in mountain forests of southern Ethiopia. They were seen at a saltlick clearing in March.

Merops persicus Blue-cheeked Bee-eater

This is a fairly common visitor in the north, especially between Kosti and Lake No, but less common in the south. They were seen in January and March in wooded grassland.

Phoeniculus aterrimus Black Wood-hoopoe

These are seen in Sudan, Zaire and Uganda, but may be overlooked as they are shy and silent. One was seen in March in the upper canopy near a saltlick.

Mirafra erythroptgia Red-tailed Bush-lark

These appear on sporadic occasions from Darfur southwards, in dry savannah. They were seen in Bangangai in January on recently burnt swamp, which was then very dry. They were also heard singing on the wing.

Turdus piaggiae Abyssinian Ground Thrush

These are common residents in the Imatong mountains and Boma Hills area. They inhabit quiet forests, undergrowth and streams. In Bangangai they were found in similar habitat around saltlicks in April.

Oriolus brachyrhynchus Western Black-headed Oriole

This bird does not appear in Cave & Macdonald (1955), but was recorded for Bangangai by Woodman (1952b). It was seen in December in camp, where it was feeding from a hornet's nest.

Euplectes gierowii Black Bishop

This is an uncommon resident from Torit to Tambura, in grass along rivers and elephant grass. In July a party was seen which included females, in tall grass near a saltlick.

Euplectes ardens Red-collared Widowbird

This is common locally in wooded savannah near Torit, Yei and Boma. In August a group were seen in which some males exhibited the red collar while others lacked it.

Mandingoa nitidula Green-backed Twinspot

Cave & Macdonald (1955) report these from the forests of the Dongo-tona Mts only. They were seen in Bangangai, in August, on a track through the forest, near a group of redbtail monkeys *Cercopithecus ascanius*.

Vidua interjecta Northern Paradise Whydah

This species is known from the Aloma Plateau (Hall & Moreau 1970). In Bangangai, in December, a male was seen in breeding plumage.

ACKNOWLEDGEMENT

We gratefully acknowledge considerable help and advice from Gerhard Nikolaus.

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All contributions, which will be acknowledged, should be sent to the Editor, G.C. Backhurst, Box 24702, Nairobi.

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This issue contains a brochure and order form for Volume II of *The Birds of Africa* edited by Emil K. Urban, C. Hilary Fry and Stuart Keith, to be published by Academic Press.

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SCOPUS

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Illustrations should be on good quality white paper, bristol board or tracing material, in line, and should not be larger than 19 x 23 cm. Lettering (in black) will be the responsibility of the author and should be done neatly in Letraset (or similar), no larger than 14 point (3.9 mm). Each illustration should be numbered (Fig. 1, etc.) and be provided with a legend typed on a separate sheet of paper. Photographs will also be considered.

MAY 26 1988

TAXONOMIC NOTES ON SOME BIRDS FROM EAST AFRICA

P.A. Clancey

During the course of a research visit to the Sub-department of Ornithology, British Museum (Nat. Hist.), Tring, in September/October 1985, the opportunity was taken to study the subspecific taxonomy of a wide range of Afrotropical bird species. Findings on some of the species studied are now seen as being at variance with those adopted and taken into the standard check-list for East Africa (*Birds of East Africa* (Britton (Ed.) 1980) some years ago. In order to make these new findings available to students, the following comments are submitted. While the bulk of the work was carried out at Tring, some of the studies were pursued further in subsequent visits to the Musée Royal de l'Afrique Centrale, Tervuren, the Museum Alexander Koenig, Bonn, and the Durban Natural History Museum.

Buccanodon whytii (Shelley) Whyte's Barbet

In the arrangement adopted in *Birds of East Africa*, nominate *B. whytii* (Shelley, 1893): Zomba, southern Malawi, is listed as occurring at localities in the Songea district of southeastern Tanzania. The series at Tring, while not as replete as one would wish, indicate that *B. w. whytii* is confined to southern Malawi, perhaps extending marginally into adjacent Mozambique territory. North of its range to the west of Lake Malawi it is replaced by *B. w. angoniensis* Benson, 1964, which differs in having the ground colour of the breast, belly and lateral surfaces saturated reddish olive-brown, the feather tipping buffy. In *B. w. whytii* such parts are pale buffish brown, the feathers fringed off-white.

The Songea population is referable to neither of the foregoing subspecies. It lies closest to *angoniensis* but displays more extensive metallic blue-black over the lower fore-throat, and the ventral ground colour is dark earthen brown, lacking the reddish nuance present in *angoniensis*, the feathers tipped white rather than buff. The tail also ranges shorter in length: 46.5-51 (49.1), versus 52.5-54 mm in *B.w. whytii*, in the three paratypes available, these collected by I.H. Dillingham in July 1955. The population was named *B. w. euroum* Clancey, 1956: Songea, southeastern Tanzania, and in East Africa both this race and *B. w. stresemanni* Grote, 1935, and *B. w. terminatum* Clancey, 1956, should be admitted. Nominate *B. whytii* requires to be seen as extra-limital.

Pogoniulus chrysoconus (Temminck) Yellow-fronted Tinkerbird

In the *SAOS Checklist of Southern African Birds* (Clancey (Ed.) 1980), the range of *P. c. extoni* (Layard, 1871): Kanye, southeastern Botswana, is restricted to the northwestern Orange Free State, the northeastern Cape, southeastern Botswana and the Transvaal (on the plateau). The population of southeastern Tanzania placed as *extoni* in *Birds of East Africa*, with a range from Songea and Liwale north to the Mikumi

NP requires to be referred to *P. c. dryas* Clancey & Lawson, 1961: Panda, Inhambane district, southern Mozambique. This taxon differs from *extoni*, in being smaller in size (wings of males and females 55.5-60, versus 60-65 mm). Over the dorsal surface the streaked pileum lacks the heavy obfuscation of black present in *extoni*, and has the light streaks over the back markedly whiter. Ventrally, the fore-throat is paler yellow-green, and the rest of the underside is whiter.

In the high west of Tanzania to the south of the nominate race, the population is again not attributable to *extoni* but to *P. c. rhodesiae* Grant, 1915: Chambezi Valley, northeastern Zambia. This taxon again lacks the blackish clouding over the streaked crown. In the main it resembles *dryas* but is longer-winged and has the ventral surface generally tinged with greenish buff or light citrine.

The material in the collection at Tring supports the arrangement of the subspecies as outlined in the *SAOS Checklist*. The races occurring in East Africa should be as follows: *P. c. chrysoconus*, *P. c. rhodesiae* and *P. c. dryas*.

Cercotrichas barbata (Hartlaub & Finsch) Bearded Scrub Robin
Over ten years ago the present writer (Clancey 1974) demonstrated the presence of geographical variation in *C. barbata* warranting the arrangement of the populations into two subspecies in north/south groupings. In the collection of the British Museum (Nat. Hist.), Tring, are several specimens taken at the corrected type-locality Caconda, Huila, Angola, by J. de Anchieta, who also shot the original material on which Hartlaub & Finsch based their description in 1870. This sample and the balance of the material at Tring comports with earlier findings that the northern populations ranging from northern Angola (in Cuanza Norte, Malange, Lunda, etc.), southern Zaire, adjacent Zambia and western Tanzania (Tukuyu northwest to Kigoma (at Busondo and Nzilandagaza), *vide Birds of East Africa* p. 135), are separable from the southern, more mesic, ones. They average browner, less grey, above, and over the fore-throat the grey lateral surfaces are more broadly darker greyish. Ventrally, the breast, sides and flanks are darker and redder, the white over the belly constricted, and that present tinged buff. The under tail coverts are also buffy. These more saturated elements were characterized as *C. b. thamnodytes* Clancey, 1974: Bitale, 29 km north of Kigoma, Western Province, Tanzania, the range of which taxon is centred on the southern sector of the drainage fan of the Zaire River, ranging marginally into East Africa.

Cercotrichas quadrivirgata (Reichenow) Eastern Bearded Scrub Robin
Clancey (1960) showed that the subspecies *C. q. rovumae* (Grote, 1921): described from the headwaters of the Rovuma River, southeastern Tanzania, was separable from nominate *C. quadrivirgata* (Reichenow, 1879): Kipini, lower Tana River, Kenya, on both colour and mensural grounds. Later, Benson & White (1962) contested these findings, using material in the collection at Tring and from other centres. During a visit to the Los Angeles County Museum in May 1979, I

examined, albeit briefly, the large East African series of this scrub robin housed in that centre, while in September 1985, I examined the series in the British Museum (Nat. Hist.) at Tring.

In their 1962 contribution, Benson & White failed to heed the caveat that in assessing size variation in the present scrub robin, care should be exercised in seeing that only correctly sexed and fully adult specimens are used. In my 1960 paper I resuscitated *C. q. rovumae*, differentiating it from the nominate race on the basis of great size, rather darker (actually warmer brown) upper-parts and redder, more saturated, buff lower fore-throat and breast. A re-examination of the size parameter results in the following:

C. q. quadrivirgata wing-lengths (mm)

Coastal Kenya	9 males	76-81 (78.1), SD 2.14
	2 females	74, 75
Somalia	1 male	79

C. q. rovumae wing-lengths (mm)

Eastern Zimbabwe	7 males	82-88 (84.7), SD 1.88
	5 females	76-82 (79.2), SD 2.38
Malawi	11 males	81-89 (83.9), SD 2.54
	6 females	76-80 (78.5), SD 1.74
Mozambique	5 males	81-88.5 (84.4), SD 3.20
	4 females	76-79 (78.1), SD 1.43
Eastern Tanzania	5 males	81-83.5 (82.0), SD 1.17
	4 females	77-79 (77.8), SD 0.84

In the case of tail-length (mm):

males of *C. q. quadrivirgata* ranged 67-72, while females were 64-67.

males of *C. q. rovumae* ranged 72-84, females 68-74.

Specimens with tails shorter than the minima given have been assessed as retaining juvenile rectrices.

The extensive material in the Los Angeles County Museum collection showed that the population of coastal Kenya differed from birds occurring further south in East Africa not only in being smaller but also in having the dorsal colouration more earthen and less warm brown. Below, the medio-ventral plane was more extensively white and the breast band paler buff. While material in fresh condition from Somalia has been extremely limited, that seen suggests that there is no valid difference between the population of the coastal regions of the southwest (*C. q. erlangeri* (Reichenow, 1905): lower Juba River, between Bardera and Umfudu, southwestern Somalia), and that of the Lower Tana River (topotypical of *C. q. quadrivirgata*), and the indications are that *erlangeri* should be merged into the nominate race, the southern limits of range of which lie in the lowlands of northeastern Tanzania. Populations occurring south of this and also in the interior of East Africa as far north as Voi in Kenya will now become *C. q. rovumae*.

In the first of their important contributions to the ornithology of Tanzania, Ripley & Heinrich (1966) described *C. q. brunnea* from west of Lake Manyara, at 03:35S, 35:50E, on two specimens. While I am unable to comment constructively on the validity of *brunnea*, the pattern of variation now determined for the species in East Africa presupposes that this taxon may be part of *C. q. rostrumae*. The well-differentiated *C. q. greenwayi* (Moreau, 1938): Mafia Island, Tanzania with much of the rufous in the ventral and facial surfaces replaced by white and with greyer upper surfaces, is confined to its type-locality island and Zanzibar.

Clytospiza monteiri (Hartlaub) Brown Twinspot

This attractive species is currently treated as monotypic, *C. m. ugandensis* (van Someren, 1921): Masindi, Uganda, being considered a synonym of *C. monteiri* (Hartlaub, 1860): Bembe, Congo district, northern Angola (cf. Traylor (1968)). Material studied in 1985 in the centres at Tring, Tervuren and Bonn indicates that the species is divisible into northern and southern races, the long series in the Musée Royal de l'Afrique Centrale, Tervuren, showing this variation more clearly than that in the other two museums. In the population present in the savanna regions lying immediately to the north of the Lower Guinea Forest to reach the southern Sudan, Uganda and Kenya, the grey of the entire head in males is paler than in the populations present south of the forest. In addition, the gular streak is a brighter rose-red, while the ground colour to the breast is lighter red-brown (about Antique Brown (Ridgway (1912)) and rather more amply mottled with white spots. The female of the northern elements is also paler, lighter grey over the head and with the fore-throat more extensively white. There is no difference in size.

While the original description of *ugandensis* (van Someren (1921)) is not in accord with the true nature of the geographical variation, being simply descriptive of individual variation, the name requires to be adopted for the northern subspecies, the range of which extends in the east to East Africa in Uganda and western Kenya.

Cryptospiza reichenovii (Hartlaub) Red-faced Crimson-wing

In *Birds of East Africa* only the race *C. r. australis* Shelley, 1896: Mt Chiradzulu, southern Malawi, is admitted for East Africa, the form *Cryptospiza ocularis* Sharpe, 1902: Rwenzori Range, Uganda, being tacitly treated as synonymous, as in Traylor (1968). A critical study of the material of this crimson-wing in the collection at Tring suggests that there was a measure of justification for Sharpe's naming of the Rwenzori population in the first place, but that if *ocularis* is not now to be recognized, the western Ugandan and adjacent Zairean birds must be placed in nominate *C. reichenovii* (Hartlaub, 1874): Bondongo, Cameroun, rather than with *australis*. A note made at the time the comparisons were effected reads: "A little paler below than most Cameroun *C. r. reichenovii*, but the range of individual variation in the two populations is such as to unite them taxonomically."

Measurements of wing-lengths (mm) are as follows:

6 males from Uganda	52-57 (54.7), SD 1.78
2 females from Uganda	52, 56
10 males from Cameroun	53-56 (53.6), SD 0.94
4 females from Cameroun	52-56 (53.5), SD 1.77

Arising from this study, nominate *C. reichenovii* requires to have its range greatly extended east to East Africa to include the western Ugandan and adjacent Zairean population. All other East African representatives of the species remain as of the race *C. r. australis*. *C. ocularis* Sharpe is now, accordingly, lodged in the synonymy of *C. r. reichenovii*.

Hypargos niveoguttatus (Peters) Peters' Twinspot

The subspecies *H. n. macrospilotus* Mearns, 1913: Meru Forest, Kenya (Meru NP), is the only one admitted in *Birds of East Africa*, yet, as shown by Clancey (1961), the variation of subspecific relevance in central and eastern Africa is infinitely more complex. Study of material at Tring from eastern aspects of the range in East Africa reveals that two races occur in this region. A neatly prepared series from Mt Endau, Kitui, at 01:16S, 38:35E, which lies immediately south of the type-locality of *macrospilotus*, highlights the fact that coastal females from Kenya and Tanzania differ from the said race in having a darker, more crimson, less orange-red wash to the entire plastron, the rest of the venter much darker, more blackish, grey, with little or no buffish tinge, and with the white spotting heavier. Differences exhibited by males were considered of small taxonomic significance. *H. n. macrospilotus* requires to be considered an interior race, ecologically xeric, and probably restricted to the region of lower Mt Kilimanjaro to Voi, locally north to Kibwezi, Mt Endau and Meru in Kenya (*vide Birds of East Africa*, p. 223). The birds from the more humid coastal areas are referable to *H. n. baddeleyi* Wolters, 1972: Nacala, northern Mozambique, which has a range from coastal Kenya and eastern Tanzania south to northern Mozambique to the north of Zambezia. It was named on 4 skins from Nacala and 6 from Mikindani, in Tanzania (Wolters (1972)).

The population of the interior savanna regions of Tanzania is the race *H. n. idius* Clancey, 1961: Kihambwe R., Kibondo, northwestern Tanzania, in which the female resembles that of *macrospilotus* but differs in having the red over the lateral head extending up to the temporal regions to form post-ocular streaks. This taxon is recognized by Traylor in *Peters' Checklist* (1968), but Wolters felt it was based on individual variation, which is not so. In the country to the east of Lake Tanganyika from Mahari Mt to Ufipa in southwestern Tanzania *idius* is replaced by *H. n. centralis* Clancey, 1961: Baraka, Shaba, Zaire, in which race females do not have a red post-ocular streak, but males show a major extension of red to the hind neck, and over the venter the red of the plastron is bled into the black and white dotted surface. In the continuation of *Peters' Check-list* Traylor (1968) merged *centralis* with *macrospilotus*, which move, I

believe, was incorrect in face of the good characters exhibited by the population. Furthermore, *idius* separates *centralis* from both *macrospilotus* and *baddeleyi*, so that merging the two taxa is highly undesirable. Four races of the present twinspot require to be admitted for East Africa: *H. i. baddeleyi*, *H. n. macrospilotus*, *H. n. idius* and *H. n. centralis*.

Plocepasser mahali Smith White-browed Sparrow Weaver
In *Birds of East Africa* the race *P. m. stridens* Clancey, 1968: Kilosa, eastern Tanzania, was not accepted because of a paucity of comparative material. While limited, the series of specimens in the collection of the British Museum (Nat. Hist.), Tring, of both *P. m. pectoralis* (Peters, 1868): Inhambane = Tete district, southern Mozambique, and *P. m. stridens* supports recognition of the latter. As seen on the specimens at Tring, *stridens* is darker and more earthen, less sandy or buffish, brown over the dorsum. Ventrally it is clearer white, lacking the subtle buff tinge of *pectoralis*, while the breast spotting is both blacker and heavier. The size is also greater; all these factors are in line with the findings of Clancey (1968) reached years ago on other material.

P. m. stridens ranges from eastern Tanzania, where uncommon, south to the interior of Mozambique north of the Zambezi River, and southern Malawi to the east of the rift. *P. m. pectoralis* replaces it in the dry Tete district of Mozambique, extending to the southern and southeastern aspects of Zambia and northern and northeastern Zimbabwe. Further west in south-central Africa, *pectoralis* is replaced by *P. m. terricolor* Clancey, 1968, described from the mid-Okavango River.

Emberiza flaviventris Stephens Golden-breasted Bunting
In Britton (1980) the race of the present bunting occurring in East Africa is given as *E. f. kalaharica* Roberts, 1932: Tsotsoroga Pan, northern Botswana - a locality in the northeastern periphery of the South West Arid Zone visited during the Vernay-Lang Kalahari Expedition of 1930. As shown in the *SAOS Checklist* (Clancey Ed. (1980)), p. 295, *kalaharica* ranges from northeastern South West Africa (including the Caprivi Strip), southern Angola and Botswana to Zimbabwe, the Transvaal and the northern Cape to northeastern Swaziland and Mozambique between the Limpopo and Zambezi Rivers.

East African populations of *E. flaviventris* are referable to *E. f. carychroa* Clancey, 1968: Langata Forest, Nairobi, Kenya, differentiated initially in Clancey (1967). In freshly assumed dress, *E. f. carychroa* differs from *kalaharica* in the adult male having the back more saturated red-brown, the feather-fringes dull buffish olive rather than light greyish. On the ventral surface, the breast-band is as dark as in nominate *E. flaviventris* Stephens, 1815: Cape of Good Hope, but the major criterion is that *carychroa* has the white flanks washed with rust-colour, which overlay is lacking in *kalaharica*. In size *carychroa* and *kalaharica* are alike.

Examination of such material as exists in the collection of the British Museum (Nat. Hist.), Tring, confirms the differences outlined

above for the East African race, which has a wide range in the equatorial belt of the Afrotropics, extending from southern Sudan and East Africa, south to northern Mozambique and Malawi, and west, south of the Lower Guinea Forest to southern Zaire, much of Zambia and central and northern Angola.

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- P.A. Clancey, *Fernleigh Gardens, 8 Lambert Road, Morningside, Durban 4001, South Africa*

(Received 27 November 1985)

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SHORT COMMUNICATIONS

SIGHTINGS OF LONG-TOED STINTS *CALIDRIS SUBMINUTA* AT NAIVASHA

Long-toed Stints *Calidris subminuta* were netted on three occasions in the rift valley (at Naivasha and Nakuru) between 1969 and 1974 (Backhurst & Britton 1969, EANHS OS-C 1977, Britton 1980). During the past two years there have been further sight records from Dandora, Malindi and Naivasha (East African Bird Reports for 1984 and 1985 in press). Since no local account of the field characters of this rare but apparently regular visitor to Kenya has appeared, it seems worth giving details of birds which I found at Naivasha early in 1985.

Late on 2 March 1985 I flushed a stint from drying soft mud on the SE shore of Lake Naivasha about 1 km north of Safariland Club. It was dark brown above with a noticeable broad blackish rump centre, and drew attention with a short but rather loud call, a single *churrrp* not unlike that of a Curlew Sandpiper *Calidris ferruginea* but more abrupt. It disappeared behind a bank of papyrus with a curious wavering flight, and could not be found again. About midday on 20 March, at precisely the same place, I noted a browner stint associating loosely with a party of feeding Little Stints *C. minuta*. I observed it through binoculars in good light at 15-20 m and was able to see details of plumage, head and bill shape, and leg colour. Although fairly tame, it twice took to the wing, but was easily relocated. When flushed it gave the same short call and showed the same erratic flight and prominent dark rump as the bird seen three weeks earlier, which I presumed to have been the same individual. An inconspicuous short wingbar and pale (but not white) outer tail were noted. On one occasion it rose quite high before flying about and eventually landing only 100 m away. I identified the bird as a Long-toed Stint in winter plumage. Details noted whilst it was feeding were as follows: slightly smaller than accompanying winter plumage Little Stints, head apparently smaller, neck relatively longer and general build less compact; upperparts darker and browner than Little Stint, these and wing coverts more heavily mottled; top of head dark from forehead to nape; dark mark through eye, contrasting with quite prominent pale supercilium, which extended well back (Little Stints had paler, less distinct head marking and were broadly whitish on forehead); bill appeared marginally finer and longer than in Little Stint, with a suggestion of a downward droop at the tip; fine streaking was quite noticeable across the breast; the legs were pale brownish, and long toes were in fact obvious when the bird lifted its feet; feeding action was similar to that of Little Stint, but carriage more crouched-looking, legs rather more flexed.

I found another unusual stint on the northern shore of Lake Naivasha on 1 May. With the lake level rising fast and sedge growth beginning, a few hundred migrant waders (mainly Ruffs *Philomachus pugnax*, Curlew Sandpipers and Little Stints) were concentrated in a single marshy area. The bird was flushed at a few metres range showing rich dark brown mottled upperparts, a broad dark rump and a

short wingbar. It gave the distinctive *churrrp* call familiar from experience with the March bird. It was flushed three more times from low marshy vegetation, but could not be seen on the ground. Each time it called and towered, then flew around high and rather erratically for a minute or two before landing. It did not associate at all with the other waders in the area. Although head details and leg colour were not seen I have no doubt that this was also a Long-toed Stint. At the time concerned, the March site some 10 km away was flooded and devoid of waders. This later sighting could easily therefore have involved the original bird.

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RED-NECKED PHALAROPES *PHALAROPUS LOBATUS* OFF THE COAST
OF SOMALIA AND KENYA

This communication reports sightings of Red-necked Phalaropes made by my friend Nautical Officer F. Scharffetter during voyages along the Somali and Kenyan coasts in 1983 and 1985. Mr Scharffetter was a member of the crew during these voyages and is an experienced bird-watcher. His observations of phalaropes are listed below: the first number given refers to the location of the sighting(s) as shown on the map (Fig. 1); the numbers after the date are the numbers of phalaropes.

Southbound

1. 5 Nov 1983: 4 + 3 + 2 + 1
2. 6 Nov 1983: 06:00: 5 + 2 + 10 + 6 + 12 + 10
3. 6 Nov 1983: 08:00: few hundred on current edge
4. 6 Nov 1983: 16:00: 10
5. 6 Nov 1983: 17:00: 30
6. 8 Nov 1983: 4 + 3 + 16
7. 9 Nov 1983: 25 + 2 + 2 + 2 (water depth 140 m)
8. 10 Nov 1983: 4 (depth 80 m)
9. 10 Nov 1983: 35

Northbound

10. 15 Nov 1983: 12 + 1 (depth 1100 m)
11. 16 Nov 1983: 10
12. 16 Nov 1983: 9
13. 16 Nov 1983: 11:00: 1 (depth 180 m)
14. 16 Nov 1983: 16:00: 3000-5000
15. 17 Nov 1983: 16:00-17:00: about 3000 mostly in flocks of up to 300.



Fig. 1. Map showing sites of sightings of Red-necked Phalaropes

Southbound

16. This is a seismically active area, 48 km NE/SW by 15 km NW/SE, which was surveyed between 4 and 29 January 1985. Bird observations were helped by the vessel's slow speed of only 5 knots (c. 9 km/h) but hampered by very rough weather with continuous winds of force 5-6 (c. 30-50 km/h). The phalaropes often appeared to be flying from south to north, and this direction was also noted during the night observations with the aid of the ship's searchlights. Numbers of phalaropes seen were as follows:

4th, 5th, 6th: 0

7th: 2

8th, 9th: 0

10th: 1

11th: 3

12th: 1 + 6 + 8 + 4

14th, 15th: (0 - at Mogadishu)

16th: 11 + 7 + 5

17th: 25 + 14 + 7 + 8 + 5 + 20; at night: 5 + 3 + 6 + 4 + 5 + 3 + 1

18th, 3 + 13 + 6 + 5 + 4 + 1

19th: at night: 6 + 5 + 1

20th: 1

21st: 3; at night: 1 + 7 + 11 + 8 + 12 + 6 + 3

22nd: at night: 1 + 1 + 2 + 9 + 5 + 6 + 2 + 1 + 2 + 3 + 2

23rd: 0

24th: 1 + 12; at night: 3 + 8 + 20 + 9 + 12 + 7 + 2 + 6 + 1 + 5 + 18 + 8 + 11 + 7 + 6 + 11 + 3

25th: 16 + 2; at night: 3 + 2 + 6 + 3 + 3 + 2

26th: 1 + 3; at night: 12

27th, 28th: (0 - in Mogadishu)

29th: 8 + 1 + 1.

Northbound

17. 2 Feb. 1985: 13 + 4 + 7 + 6 + 21 + 2 + 34 + 14 + 7 + 25 + 14 + 7 + 6 + 3 + 9 + 16 + 8 + 6 + 3 + 6 + 7 + 8

18. 2 Feb 1985: some flocks.

During 3 and 4 February in the Gulf of Aden no phalaropes were seen.

Most phalaropes were seen near the coast or at the edge of the coastal shelf and the deep sea where the water is turbulent (caused by the meeting of the East African Coast Current and the Equatorial Current).

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Received 20 August 1985

THE ROSEATE TERN *STERNA DOUGALLII ARIDEENSIS* ON ARIDE ISLAND
SEYCHELLES: NOTES ON THE 1984 SEASON

The Aride population of Roseate Terns was first monitored for the whole of its breeding cycle in 1978 (Warman 1979). Observations have since been made by O. Volcere who came to the island in 1979 as Assistant Manager, but there has been no written report. The following qualitative observations represent only the second record of the breeding cycle.

Colonies

On Aride, Roseate Terns breed in separate sub-colonies around which they are based until shortly before they leave the island, when they congregate on rocks near the sea. These colonies do not overlap with the colonies of any other species. In 1984, nine distinct sub-colonies were distinguished, which were roughly in the same sites as recorded by Warman (1979). However, it appears that the boundaries of the sites have been extended considerably, so that some sites are almost adjacent. Seven of the sub-colonies occupied sites under a canopy of *Pisonia* woodland. Shaded, woodland sites seem to be preferred, and it was these which had increased most in area and were first to be occupied. Only two of the sites were on 'grassland' and account for, at most, one quarter of the total Roseate Tern population. Positions of sub-colonies vary slightly from year to year.

Breeding plumage

One major discrepancy was found between the observations made by Warman and our own. Warman comments that at the time of courtship, all birds have black bills, the first traces of red on the bill only appearing after the eggs had been laid and incubation was proceeding; by the time the chicks were fledged and adults preparing for departure, the bills were completely red. According to observations made in 1984 it appears that the red colouration *only* occurs when the birds are in breeding condition. This is an important distinguishing feature of the sub-species *arideensis*.

On arrival at Aride, the birds had black legs and bills. Both legs and bill had turned completely red by the time egg-laying started. Red legs, feet and bills persisted throughout the incubation period and for a considerable time after hatching. Only when the young are nearly fledged do the bills and legs of adult birds start to turn black. By the time of departure from Aride, bills and legs had reverted to all-black, contrary to the statement made by Warman. In addition, the breast feathers have a pink colouration during breeding, which also disappeared by the time the birds left the island.

Breeding cycle

- 24 April Very large numbers of birds arrived during the night and were heard calling at dawn. Some days previously, groups of birds had started to congregate on rocks.
- 8 May By this time colonies were occupied and the birds were very excitable and easily disturbed by observers.

- 19 May Considerable numbers of eggs had been laid at woodland sites, fewer at grassland sites which were occupied last.
- 13 June First eggs hatched at woodland sites in the west of the island.
- 21 June First eggs hatched at grassland sites.
- 7 July Many chicks starting to fly, but still within the confines of the colony. Parents sometimes took a while to find their chick on return to the colony. Many disputes were observed between adults returning with fish and those remaining in the colony. Birds seemed almost oblivious to the presence of observers, but both adults and young were very argumentative amongst themselves.
- 22 July Nearly all chicks flying but still remaining near nest sites. By the end of July, some birds began to congregate on rocks in preparation for departure.
- 3 August A few birds remained at nest sites, but the colonies were much diminished, more than half the birds having already left.
- 15 August No adult birds seen. Four young birds remained at one site, in poor condition, apparently having been abandoned, and they died shortly after.

Mortality

Variation between sites

Very few dead young were found at sites under the *Pisonia* canopy. The number of dead chicks was much greater at the largest grassland site, where there was no shade. This could partly be due to desertion by parents, as adults leave roughly at the same time, regardless of whether chicks are ready to go. As these chicks were the last to hatch, death as a result of desertion would be expected to be higher. However, Sooty Terns *Sterna fuscata* nesting nearby also suffered higher chick mortality, so it seems more likely that death was due to over-exposure to the sun.

Predation

Human activity now has a minimal effect in that no eggs are collected; disturbance by island staff is kept to a minimum, to allow for the particular sensitivity of Roseate Terns, so that chances of egg-predation by skinks is also reduced. Aride has a small resident population of Barn Owls *Tyto alba*, and whilst no definite information has been obtained as to the number of Roseates taken, this is probably not significant.

Accidental deaths

A small number of adult birds were found hanging between forks of *Pisonia* branches. Some deaths occurred early in the season due to immobility resulting from sticking to *Pisonia* fruits; two birds were found affected in the central part of the island, but none at sites in the west where the canopy is high and birds can fly in and out without danger of entanglement. No chicks were affected in this way.

Ticks

A number of chicks were infested with ticks within a week of hatching and later some deformation of feet was observed. Tick infestation was lower in 1984 than in previous years and only a small proportion of the population was affected.

Conservation and management

It seems certain that the Aride population of Roseate Terns has increased from 1978 to 1984, and as long as the future of the island reserve remains secure, the outlook is favourable. Annual monitoring is extremely important for this species, as numbers and breeding success vary considerably from year to year. The birds are renowned for their sensitivity, and have been known to desert eggs and chicks for no apparent reason. It is vital that disturbance is kept to a minimum.

The most suitable habitat for the species appears to be mature woodland, the shade afforded compensates for deaths caused by *Pisonia* fruit entanglement or hanging. This also will vary from year to year, so further study is needed. Pineapples, which at one time threatened to take over nest sites, are now being shaded out by woodland, so this is no longer a danger to the habitat. The accidental import of rats must at all costs be prevented, and all incoming goods carefully scrutinized. Disturbance by low-flying aircraft is rare.

No quantitative observations have been made, neither have any ringing operations been carried out, and it is doubtful whether the disturbance involved is merited.

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Susan M. Tyzack and O. Volcere, Aride Island, via Praslin, Seychelles

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NOTES ON THE SPECKLED PIGEON *COLUMBA GUINEA* IN NW SOMALIA

Ash & Miskell (1983) have drawn attention to the recent spread of the Speckled Pigeon *Columba guinea* in Somalia, and the purpose of this note is to record its status in NW Somalia in 1958, and attempt to explain various flock movements which were noted.

Distribution

By 1958 this bird was quite common in the townships as far east as Sheikh and Burao, breeding freely in unused house chimney pots in Hargeisa during April, October and November (i.e. during the rains); Archer & Godman (1937) describe the bird as being "confined to one area, Gebileh - El Birdaleh - Birdah - Buramo (= Borama) on the Somali-Abyssinian border". They also remark that at Gebileh it

inhabited the sandstone cliffs of the *tugs* (= wadis), feeding out in the nearby *jowari* (millet) fields during the day and returning to drink in the *tug* pools at 15:30. Elsewhere this bird is well-known as a commensal of man, almost domesticated in its use of man's buildings (Britton 1980, Goodwin 1967); and it has also acquired this trait in Somalia, enabling it to exploit an otherwise unused niche aided by a new food supply, and so expand its range.

Local movements/Roosting

Two types of local movement were recognized at Hargeisa, the first of which was ascribed to a winter feeding movement in which the birds were noted flying eastwards to Hargeisa at about 16:00, and continuing for about an hour. They flew at tree-top height, fast, direct and close to the *tug*, with small flocks of about a dozen birds passing every few minutes, increasing to flocks of 25-30 birds in February. This movement continued until 12 April at least. It is suggested that these birds had spent the day feeding in the grain-fields to the west of Hargeisa, the creation of which, on a large scale prior to 1958, had almost certainly influenced the spread of this species as it also did Ploceine weavers (Clarke 1986). The outward flighting movement in the morning - if any - was not located.

The second movement discerned was undertaken by a few pairs, or small parties not exceeding ten in number, which flighted up the hillside to the north of Hargeisa to feed and possibly roost on open sandy patches near the summits of the hills. This movement took place at dusk with the birds apparently returning next morning, as observation periods from dusk to almost dark failed to reveal any birds moving downwards again, the birds always being left on the ground. On 23 February, the site was visited at 05:55 when half light and during a thick mist. Two birds were flushed, settling again a few metres further on. In view of the half light and heavy mist it seems unlikely - though not impossible - that the birds had just arrived from the safety of the town below; and, coupled with the evening observations, strongly suggest that the birds had in fact roosted there. McLachlan & Liversidge (1978) record the subspecies *phaeonota* and/or *bradfieldi* in South Africa roosting on newly ploughed fields, having taken to more open country where grain is grown. At this site the tallest shrubs were scattered acacias, approximately 3 m high, and most unsuitable for accommodating a large pigeon, together with patches of aloe scrub interspersed with open sandy ground.

This species was also noted roosting in August on a south-facing, split-level, corrugated iron roof; where the upper level overhung the lower so providing overhead shelter, but leaving the pair exposed to the prevailing winds.

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MACKINDER'S EAGLE OWL FEEDING ON BATS

An early morning visit to the Kitum cave on Mt Elgon, Kenya, resulted in a fascinating observation. At approximately 08:30 on 30 August 1983 Glen and Richard Matthews, Craig Sholley and I approached this famed elephant cave. When within about 100 m of the mouth of the cave we sighted a Mackinder's Eagle Owl *Bubo capensis mackinderi* perched on the large boulders at the mouth of the cave. While we stood observing the bird through binoculars, it flew into the cave. We assumed it was seeking shelter for the daylight hours. We proceeded towards and then into the cave. Immediately upon entering the cave, an eagle owl flew out of the cave past us. As the bird passed within a metre or so of us it was easily observed to be carrying a bat, apparently taken in the depths of the cave. We then sought out the point of rock on which it had been resting upon our sighting it.

On top of this rock we found five bat wings, of between 15 and 20 cm in length. Upon examining the cave, we found it to contain a large population of bats of what appeared to be at least two species. We were, however, unable to identify these without closer inspection. These observations suggest diurnal hunting and feeding by the Mackinder's Eagle Owl in the daytime darkness of the cave, preying on the roosting bats.

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ROOSTING BEHAVIOUR OF RED-FACED CROMBEC

One facet of bird behaviour that is very little known is the roosting behaviour of many birds. For example, we have found only one reference to roosting in honeyguides, that being a honeybird juvenile roosting between two foster parents.

On the evening of 13 November 1985 at our camp on Ol Ari Nyiro Ranch, Laikipia plateau, Kenya, our attention was focussed on several interacting Common Bulbuls *Pycnonotus barbatus* calling loudly. While watching them we noted a Red-faced Crombec *Sylvietta whytii* feeding in the gathering darkness (time 18:38). We watched the crombec move along several branches, then to a little olive branchlet over our car's track, at 2.5 m above ground. There it darted about, catching insects among the petioles of leaves. Suddenly, at 18:40 it ceased moving and simply perched. We checked it quietly by torchlight at 19:00, 20:00 and 21:00 and indeed found it roosting there.

It was in its roosting position fully by 19:00 and did not shift from this all night. Facing east, its head appeared to be tucked under its left wing, and its feathers erected to form almost a round fluffy ball (especially with the tiny tail virtually covered by the projecting feathers). Even its feet were covered completely. Presumably the down feathers were adjusted to hold the inner air layer tightly, with the contour feathers erected (which would allow greater penetration of air toward the body, but the contour feathers may trap the upper air layer to act as outer insulation). The erected feathers usually allow air to reach the body, cooling the bird, but presumably the down feathers beneath are then erected also. In any case this posture and erect plumage were maintained through the night and from 05:00 to 06:00 on 14 November. The bird moved and depressed its feathers, raising its head at 06:00; it sat for nearly two minutes, then at 06:02 it flew down to a bush and began gleaning insects. Gradually it worked about, feeding voraciously, reaching the top of an *Acacia gerrardi* at 06:25; from there it sang five renditions of its primary song, thus presumably it was a male. The primary song is a melodic, whistling warbled *witch-eee, witch-eee witch-eee-eeee*, sometimes longer, recalling closely the buzzy song of the North American wood warbler, the Common Yellowthroat *Geothlypis trichas* (the alternate, or secondary song, possibly restricted to females, is a more melodic, complex warble; occasionally there is a third 'song', a trill).

To our surprise, what was presumably the same bird came to exactly the same spot to roost on 14 November at 18:41, and it did not raise its head out of the ball of fluffy feathers until 06:07 on 15th. It peered around sleepily for 7 minutes before 'unfluffing' and darting off east to a bush. Its roosting posture and direction were identical to those of the night before. It did not appear there on the (windy) night of 16 November, but it occupied exactly the same roosting site on 17, 18 and 19 November, raising its head at about 06:03-06:08, looking about a minute or two later, and flying off, usually after stretching (one wing and leg), at 06:05-06:15. It also roosted there 17-19 and 21 December.

One wonders at a bird returning to precisely the same roosting site, even to the same place on a given perch, so regularly. Especially favoured sites proven satisfactory by frequent use must afford certain advantages, otherwise it is difficult to explain repetitive

use of a site. However, we need far more data on solitary-roosting avian species that do not roost in holes, or colonially.

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STING-REMOVAL FROM BEES BY WHITE-EYED SLATY FLYCATCHERS
MELAENORNIS CHOCOLATINA

Many bird species feed regularly or occasionally on stinging hymenoptera (see McAtee 1932, Birkhead 1974 and Fry 1984 for reviews) but only a few species, notably bee-eaters (Fry 1969) and shrikes (Gwinner 1961) are known to use specific behaviour patterns to remove or destroy the stinging apparatus before swallowing the insect. During three visits to the Lake Nakuru area, Kenya, in December 1981, April 1983 and April 1985 I repeatedly observed White-eyed Slaty Flycatchers catching honey bees *Apis* sp. and removing their stings in a rather sophisticated manner. Most of these observations were made in the garden of Lake Nakuru Lodge, where bees were common in flowering pepper trees. Typically, a foraging flycatcher caught a bee in the air and quickly flew with it to an appropriate, usually rather thick, horizontal branch. Holding the beak with the insect just above the perch, the bird then repeatedly squeezed the tip of the abdomen with the beak until the stinging apparatus emerged. Occasionally the stinging apparatus got stuck to the branch and was pulled out as the bird continued moving the insect. More frequently the stinging apparatus was squeezed out of the abdomen but remained attached to it. The bird then laid down the bee, grasped the stinging apparatus with the bill and flung it away with a sudden movement of the head. Immediately afterwards, the flycatcher swallowed the bee and then vigorously wiped its beak, as if to remove a distasteful or unpleasant substance.

The behaviour shown during sting removal was very swift and its individual components were hard to separate. Therefore, many observations were necessary to eventually gain the general picture described above. Still, I may have overlooked some features and time-lapse photography may be required to analyze the behaviour in detail. In 1981 two immature birds with spotted upperparts showed the same behaviour as the adults, but their movements were generally a bit slower and the entire pattern appeared more clumsy.

Sting removal may not be uncommon among birds that regularly feed on stinging hymenoptera, although it has as yet been described only from a limited number of species. Detailed observations of the feeding behaviour of insectivorous birds may reveal other techniques for sting-removal in other species.

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A WEAVER ROOST AT HARGEISA, SOMALIA

Sir Geoffrey Archer (Archer & Godman 1961), when writing of the Red-billed Quelea *Quelea quelea* in NW Somalia over the period 1917-1922, stated that he had collected only seven specimens out of the few quite small parties seen, and considered it to be a rare bird. He also thought that as the cultivation of millet increased, so would the number of weavers occurring. In direct contrast however, Ash & Miskell (1983) were able by 1981 to describe it as an abundant non-breeding visitor to NW Somalia.

This note attempts to bridge the gap between these statements by describing very briefly the agricultural changes which took place in the 1940s and 1950s, and to record the discovery of a temporary mixed roost of weavers found at Hargeisa in late July 1958, together with some information on their habits. Finally, a general comment follows on the distribution and numbers of each species compared with the data of Archer & Godman (1961).

To set the occurrence of the weavers into perspective, a note on the agricultural scene is necessary. R.T. Shepherd kindly supplied data showing that 6000 ha were under cultivation, mainly to millet and maize, in ex-British Somaliland in 1947. During 1948-1953 the area was increased to 21 000 ha, after which no figures are available to 1958 (cultivation also increased in ex-Italian Somaliland over the same period from 56 000 ha to 300 000 ha) (data from FAO Production Year Books). In addition to the above large areas of the Hargeisa valley - to name but one locality - were also converted to fields during the years 1954-1958, supplying the habitat for the birds mentioned in this note.

The roost was located on the hillside to the NW of the town on

30 July 1958, when large numbers of weavers were passing eastwards along Hargeisa valley. It was at the site of an underground water reservoir, below which a small fan of comparatively level ground fell away down the hillside, and which was guarded to the west by a small spur. Here grew several patches of scrub, mainly *Acacia etbaica*, 2-3 m in height, together with a clump of acacia saplings some 5-6 m high which formed the principal roosting site. Large flocks of birds had been seen in the area over the previous few days.

The species concerned, and their numbers, are summarized in Table 1 which also shows that the occupation of the roost was terminated within a month. However, some 150-200 Chestnut Weaver *Ploceus rubiginosus* and 200-250 Red-billed Quelea were still in the neighbourhood after 25 August, having moved to an un-located roost to the east.

Table 1. Summary of occupation of a weaver roost at Hargeisa in 1958

Species	Date				
	30 Jul -6 Aug	12 Aug	14 Aug	25 Aug	29 Aug
590 <i>Ploceus galbula</i> Rüppell's Weaver	few				none
591 <i>Ploceus intermedius</i> Masked Weaver	250-300	100	100		none
593 <i>Ploceus rubiginosus</i> Chestnut Weaver	750-1000	500-600	300-400	few	none
595 <i>Ploceus velatus</i> Vitelline Masked Weaver	250-300	100	100		none
597 <i>Quelea quelea</i> Red-billed Quelea	1500-2000	200-250	100		none

Note: The species are keyed to and follow the nomenclature of Ash & Miskell (1983).

During the day the weavers roamed the grainfields to the west, out to approximately 30 km, returning from 17:30 onwards in noisy, weaving, streaming flights of 20-50 birds, continuing to arrive at the roost until well after 18:00. Once in the roost they kept up a continuous chatter, often moving from tree to tree, until it was too dark to see them. The quelea, on the other hand, moved into the roost in parties of 50 or more; the flight being quiet, direct, fast, slightly undulating and at bush-top height. When an obstacle such as a house was encountered, the flock rose high, and was then subject to sudden changes of direction. Once in the roost they quickly and quietly settled down in direct contrast to the *Ploceus* spp.

Contrary to their protracted arrival, the quelea burst out of the roost to the west in three or four large flocks, completely vacating the roost before the sun rose; whereas the weavers, also leaving in three or four large flocks in a matter of minutes, left as the sun rose. Only a few of these lingered on, noisily squabbling as they moved slowly down the hillside towards the town. By 06:10 virtually all had gone.

Predators were observed at the roost on three occasions. On 1 August a Peregrine *Falco peregrinus* burst down between the trees in unsuccessful pursuit of a small flock of Superb Starlings *Spreo superbus* which also used the roost. On 3rd a probable Lanner *Falco biarmicus* flew over at 05:50, and then made off westwards. Finally on the evening of 5th an immature Gabar Goshawk *Melierax gabar* made several attempts to secure a bird from the arriving flocks, but was apparently unsuccessful. It appeared to be baffled by the number of prey available to it.

Species notes

590. *Ploceus galbula* Rüppell's Weaver. This species was commonly seen at Hargeisa, though the coast about Berbera appears to be its stronghold. Also at Medishe near Erigavo. This distribution and frequency generally agrees with that of Archer & Godman (1961), but they do not mention the northeast.

591. *Ploceus intermedius* Masked Weaver. Noted in 1958 from 18 May when 12-15 were seen, the last record being of two on 26 November. In the Forest Reserve at Borama on 20 September, A.R. Tribe and myself found 8-10 nests in various stages of construction suspended above a pool (Clarke 1985). Archer & Godman (1961) considered it "a very rare bird in British Somaliland", there being only three records of which he provided the third - a pair with eggs at Megagwein overlooking the Hargeisa valley.

593. *Ploceus rubiginosus* Chestnut Weaver. First noted in small numbers - maximum 20 - in 1956 when they moved eastwards through Hargeisa between 5-11 May, returning in August and September. Next recorded forming part of a mixed flock of weavers, sparrows and waxbills feeding in fields at Arabsiyo on 23 February 1958. On 23 May in the Forest Reserve at Borama, a flock of 150-200 was feeding on the ground at 07:15 after which the next note concerns the roosting flocks. Many of the males seen in August 1958 were in heavy body moult, suggesting that they had just finished breeding. Archer & Godman (1961) record the collection of one male only, at Hargeisa on 27 August 1920.

595. *Ploceus velatus* Vitelline Masked Weaver. Noted only at Hargeisa where a few were seen on 1 August 1956 feeding in *Acacia etbaica*. Next noted in late July 1958. Archer & Godman (1961) record eight specimens taken from small breeding colonies in mid-June to the end of July, all from east of the Mt Wogr-Odweina line.

597. *Quelea quelea* Red-billed Quelea. First seen at Dabolaq on 29 December 1957; also at Arabsiyo on 23 February 1958, after which the comparatively large flocks of the roost were seen. Archer & Godman

(1961) record the collection of seven specimens from small flocks, all from Hargeisa westwards, and considered the species to be rare.

ACKNOWLEDGEMENTS

I should like to thank Mr R.T. Shepherd for very kindly supplying the agricultural data, and Mr A.R. Tribe, Government Forestry Officer for allowing me access to the Borama Forestry Reserve and for his companionship in the field.

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GAZETTEER

Arabsiyo	9:41N 43:46E	Hargeisa	9:33N 44:04E
Berbera	10:26N 45:02E	Medishe	10:45N 47:35E
Borama	9:56N 43:11E	Megagwein	9:30N 44:10E approx.
Dabolaq	9:31N 43:52E	Odweina	9:24N 45:04E
Erigavo	10:37N 47:22E	Wogr, Mt	10:01N 45:26E

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BIRDS VISITING A RECENTLY FILLED DAM IN TANZANIA

In 1944 a small catchment area on the Ar dai Plains, 32 km SW of Arusha, Northern Tanzania, was dammed with an earth dam. The reservoir behind the dam did not flood until March 1946, after heavy rain on the night 18/19 March, when, by the next morning, the dam was more than half full. The main rains which followed were very poor, only another 100 mm being recorded, and while the dam filled almost to the spillway, the water level gradually fell through May, and receded rapidly in June. It was estimated that, when the dam was at its fullest, the water area was approximately 1 ha. The nearest permanent water to the Ar dai dam was the large Meserani dam, 14 km to the SE. The Eluanata dam, 4.5 km to the NW was almost dry at the time.

At 10:00 on the next morning, 19 March, there were already three species of waterfowl and two species of wader at the dam. Four other visits were made to the dam in March, April, May and June and the species present on all occasions are shown in Table 1. Unfortunately no visits were possible after June, but the dam would have been dry by the end of July, if not earlier.

The first, and possibly most striking feature, is the speed with which the new water was found by those five species. Three of them were Palaearctic migrants which might already have been moving northwards. The Red-billed Teal (scientific names are given in Table 1) is a great wanderer and during the rains appears on many casual waters, but the Egyptian Goose is more sedentary and its early presence more unexpected.

Three days later there were two Palaearctic migrants, Garganey in slightly larger numbers, and a single Marsh Sandpiper. The only other wildfowl were a small flock of Spur-winged Geese, a species prone to local movements. The Crowned Cranes were probably the local resident birds, but the appearance of a Kittlitz's Sandplover, a rather sedentary species, was unexpected.

By 11 April the number of species had increased to eight, one of which was a rather unexpected Little Grebe, largely resident on permanent waters although individuals do wander occasionally to casual water in the rains (Britton 1980). This was the last occasion on which Palaearctic migrants were recorded, but they may well have continued to make some use of the dam after that date. It would have been of interest to know whether the Marsh Sandpiper had remained at the dam from 22 March. The only Black-winged Stilt seen at the dam was recorded on the April visit, and the bird could have been a Palaearctic migrant. There were only three records of visits by egrets or herons, the first on 11 April by a Little Egret.

By 23 May the Little Grebes had increased to three and a Black-headed Heron was present. Waterfowl were in larger numbers, with a return of Red-billed Teal and the appearance of four Hottentot Teal and two Southern Pochard, some of which possibly became temporarily resident for there were still five Red-billed Teal, two Hottentot Teal and three Southern Pochard present on 20 June.

Another unexpected species, a single Black Crake, was found at the dam in May. This species is mainly sedentary, although individuals do wander, but with the absence of aquatic vegetation and good cover round the dam, it is difficult to see what could have been attractive to this bird. It was not there at the last visit in June.

The only Passerine recorded at the dam was the Quail Finch. On 23 May this frequenter of muddy shores of lakes and dams was numerous round the edges of the dam. The species was a local breeding resident.

After 23 May the water level receded rapidly and by 20 June the dam was barely a quarter full. However, it was still very attractive to waterfowl, with a flock of 100 Knob-billed Ducks present, and four other species of duck (see Table 1). New visitors were a single Great White Egret, 10 Blacksmith Plovers, and a single Three-banded Plover, the last mainly a sedentary bird, but liable to local seasonal movements.

On the June visit flocks of all three species of resident sandgrouse were watering at the dam at 08:45, the Yellow-throated Sandgrouse

Table 1. The number of each species present at the dam at each visit

	19 Mar	22 Mar	11 Apr	23 May	20 Jun
Little Grebe			1	3	
<i>Tachybaptus ruficollis</i>					
Black-headed Heron				1	
<i>Ardea melanocephala</i>					
Great White Egret					1
<i>Egretta alba</i>					
Little Egret			1		
<i>E. garzetta</i>					
Egyptian Goose	1				
<i>Alopochen aegyptiaca</i>					
Red-billed Teal	2			9	5
<i>Anas erythrorhynchos</i>					
Hottentot Teal				4	2
<i>A. hottentota</i>					
Garganey	2	5			
<i>A. querquedula</i>					
Southern Pochard				2	3
<i>Netta erythrophthalma</i>					
Spur-winged Goose		13	11		
<i>Plectropterus gambensis</i>					
Knob-billed Duck					100
<i>Sarkidiornis melanotis</i>					
Crowned Crane		2	2		2
<i>Balearica pavonina</i>					
Black Crake				1	
<i>Limnocorax flavirostris</i>					
Kittlitz's Sandplover		2			
<i>Charadrius pecuarius</i>					
Three-banded Plover					1
<i>C. tricollaris</i>					
Blacksmith Plover					c.10
<i>Vanellus armatus</i>					
Common Sandpiper			1		
<i>Actitis hypoleucos</i>					
Wood Sandpiper	2				
<i>Tringa glarola</i>					
Marsh Sandpiper		1	1		
<i>T. stagnatalis</i>					
Redshank	3		3		
<i>T. totanus</i>					
Black-winged Stilt			1		
<i>Himantopus himantopus</i>					
Black-faced Sandgrouse					*
<i>Pterocles decoratus</i>					

Continued overleaf

Chestnut-bellied Sandgrouse

P. exustus

*

Yellow-throated Sandgrouse

P. gutturalis

*

Quail Finch

Ortygospiza atricollis

**

* All three species of sandgrouse coming to water at 08:45

** Many round the shore

greatly outnumbering the Black-faced and the Chestnut-bellied. For sandgrouse from the Ardai the Meserani Dam was the main watering place, where they were regularly shot. The new dam would have been of greater convenience and undisturbed as hunters had not been attracted to it.

DISCUSSION

In the first four days after the dam held water it had been visited by nine species, four of which were Palaearctic migrants, and five residents. The presence of two resident species at the dam only a few hours after it had partially filled suggests a rapid response to the arrival of the first heavy rains, and a search for new feeding sites. Over the three months of observation 20 resident species visited the dam, but of those only three species of duck may have become resident for the last few weeks, when the water level was falling. Of the others, only Spurwing Goose and Crowned Crane were recorded on more than one occasion. But the fact that a new sheet of water was visited by such diverse species as Little Grebe, Black Crake and Kittlitz's Sandplover suggests that casual movements by some species of generally more sedentary habits are more frequent than might be expected.

One can only conjecture what the attraction of this small dam was to the species visiting it. There would have been no truly aquatic flora or fauna when the dam first held water. It could have offered a resting place for long-distance migrants, and the waders might have been able to find invertebrates with the moistening of otherwise very hard ground at the edge of the water. Others, such as the three solitary members of the heron family, which were each recorded only once, having been attracted by a sheet of water expecting to find food, could have been disappointed and moved on. For the Black Crake the habitat would have been even less inviting, lacking dense cover round the water's edge.

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MALIMBUS 7(2) OCTOBER 1985

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LETTER

Sir, The mention of the Brown-capped Weaver *Ploceus insignis* in *Scopus* 9: 125 is surely erroneous; *Ploceus insignis* is a highland forest species and no doubt *P. bicolor* was intended in this Sokoke Forest observation.

Another erroneous statement occurs in the same issue (*Scopus* 9: 138) where a record of the Silvery-cheeked Hornbill *Bycanistes brevis* at 0:36N 36:22E is claimed to be the most northerly in Kenya. Britton (1980) records the species from the Ndoto Mts at 1:45N 37:07E, and Lewis & Pomeroy (in press *A bird atlas of Kenya*, Rotterdam: Balkema) will include a record of *Y. Malcolm* Coe's from near Maralal at 1:06N 36:42E.

Adrian D. Lewis, Box 25296, Nairobi

Scopus 10: 59, June 1986

Received 10 April 1986

REVIEW

Conservation of tropical forest birds edited by A.W. Diamond and T.E. Lovejoy, 1985. ICBP Technical Publication No. 4, ISBN 0 946888 05 1. Pp. xvi + 318, c. A5, softback, price £18.50 (post-free) from the International Council for Bird Preservation, 219c Huntingdon Road, Cambridge CB3 0DL, U.K.

This is a very well produced book containing 15 papers which were presented at a Workshop and Symposium on Tropical Forest Bird Conservation organized by the ICBP at Cambridge in August 1982. After the introductory matter there are three papers under the heading 'Global Perspectives', then six on New World forest birds and six covering birds of Old World forests - unfortunately only three of them Afro-tropical (Thiollay: The West African forest avifauna; a review; Stuart Stuart: Rare forest birds and their conservation in eastern Africa; and Dowsett: The conservation of tropical forest birds in central and southern Africa). It should be noted that this ICBP meeting clashed with the 6th Pan-African Ornithological Congress held in Malawi, which was a great pity.

The final section of the book is on the Workshop Proceedings and it contains a paper by Prigogine on the conservation of the avifauna of the forests of the Albertine rift.

The main value of the book is that it gives an up-to-date review of the subject, with the unfortunate omission of Madagascar but this will be covered in the forthcoming *Red Data Book* on Madagascar birds.

G.C. Backhurst

Any reference cited should be listed at the end of the contribution following the form used in this issue. Names of periodicals must be given in full and, in the case of books, the town of publication and the publisher should be given. A number of works, which are cited frequently, should not be listed under 'References'; the name(s) of the author(s) and date(s) of publication should be given in the text in the normal way.

All contributions, which will be acknowledged, should be sent to the Editor, G.C. Backhurst, Box 24702, Nairobi.

WORKS WHICH SHOULD NOT BE LISTED UNDER 'REFERENCES'

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EAST AFRICAN BIRD REPORT

This forms the fifth issue of *Scopus* and each report covers one calendar year. Records of Afrotropical Region and Oceanic birds should be sent to D.A. Turner, Box 48019, Nairobi; records of Palaearctic Region birds to Dr D.J. Pearson, Department of Biochemistry, University of Nairobi, Box 30197, Nairobi. Records should be sent in early in the new year to ensure the speedy production of the Bird Report. Reports of rare birds may be telephoned through to any OS-C member (numbers inside front cover) in the hope that the bird(s) may be seen by others.

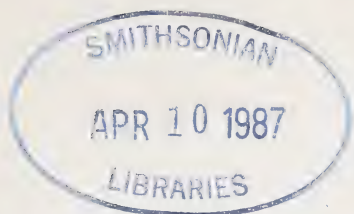
Criteria covering the submission of Bird Report records are given in *Scopus* Supplement, June 1982, copies of which are available from D.A. Turner.

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Contributions should be typed in 1½ or double spacing on one side of the paper only with wide margins all round, and should be submitted in duplicate. Exceptionally clear hand-written MSS will be considered but these too should be sent in duplicate. Both English and scientific names of birds should be given when the species is first mentioned, thereafter only one should be used; they should be those of *Birds of East Africa* unless the species does not occur in that work.

Tables, which should be numbered, *should appear in the typescript, NOT grouped on separate sheets at the end*. Metric units should be used.

Illustrations should be on good quality white paper, bristol board or tracing material, line, and should not be larger than 19 x 23 cm. Lettering (in black) will be the responsibility of the author and should be done neatly in Letraset (or similar), no larger than 14 point (3.9 mm). Each illustration should be numbered (Fig. 1, etc.) and be provided with a legend.

Illustrations should be on good quality white paper. Photographs will also be considered.

THE LESS COMMON PALAEARCTIC MIGRANT BIRDS OF UGANDA

D.J. Pearson and D.A. Turner

Although Britton (1980) mentions the status of species known to have occurred in Uganda up to 1978, there has been no full review of Palaearctic migrant visitors to that country since Jackson (1938). Modern occurrences of interest have been documented in publications such as Mann (1971, 1973, 1976), Pearson (1972ab), Rolfe & Pearson (1973) and Carswell (1986) and Uganda has been covered since 1977 by the East African Bird Report. However, there are still many records of the less common migrants, notably for the period 1963-1973 (when the country had a number of active resident ornithologists), which have never been properly published. This review, a complement to the work of Backhurst, Britton & Mann (1973) on Kenya and Tanzania, is intended to rectify the situation.

We deal fully here with any Palaearctic species whose status is uncertain, or uncommon to vagrant, in Uganda as a whole or in a substantial part of it. These are all species which we feel that an active observer would be unlikely to encounter in the areas concerned more than a few times a year. We accept 78 species in this 'less common' category. Forty-five more migrants are known to occur in Uganda more commonly, and for completeness these are listed in the Appendix together with brief details of their occurrence and distribution.

For many sight records, it has not proved possible after the elapse of fifteen years or more to obtain full substantiating details. In assessing such records we have often therefore had to rely heavily on our own knowledge or on independent reports concerning the reliability of the observer. The great majority of post-1960 records we have traced do in fact come from observers well known to one or other of us. Unless there is mention of a specimen or of capture for ringing it can be assumed that records given are sight records. We have been cautious, however, in admitting species to the Uganda list on the basis of unsubstantiated sight records alone. Mention is included of a number of interesting wader observations from Entebbe reported anonymously in the Annual Report of the Game and Fisheries Department for 1950, and apparently due to W.J. Eggeling. Mention of 'Jackson' refers to his three-volumed work of 1938.

SYSTEMATIC LIST

Ixobrychus minutus minutus Little Bittern

It is surprising that a Palaearctic bird known to occur widely in southern Africa (Clancey 1980) and to be common on passage along the Nile in Sudan (Chapin 1932) has been practically unrecorded in Uganda. A number were found in swamps on the Ibanda road, near Mbarara, during Jan-Feb 1970 (G.N. Harrington et al.). In addition Mann (1976) considered that 30+ in a small area in Teso district on 6 Nov 1966

were probably of this race.

Ciconia nigra Black Stork

There have been few records of this bird from Uganda, and it appears to be less regular than in Kenya. One ringed as a nestling at Krone, W Prussia (now Poland) 4 June 1934 was recovered at Pader Gem (E Acholi) on 28 Dec 1935 (Eggeling 1951). One was seen at Katwe on 15 Mar 1937 (anon 1937), one in Kidepo NP in Feb 1966 (A.P. Ziegler), one at Kajansi, near Kampala, from 24 Oct to 2 Nov 1969 (G. Low) and one at Namulonge, near Kampala, on 13 Dec 1971 (R.G. Passmore).

Platalea leucorodia Eurasian Spoonbill

Although common and regular in the Sudan to about 12 N (G. Nikolaus pers. comm.), this species appears to be no more than a vagrant visitor to Uganda, for which we have the following records: one on the Nile at Pakwach 15 Mar 1964 (Keith 1968); one near Mbarara 4 and 7 Jan 1970 (G.R. Harrington); a single at Kajansi 4 Jul, 31 Oct and 13 Nov-4 Dec 1982, and 18 Jan and 13 and 18 Mar 1983 (J.S. Ash, M.J. Carswell, A.B. Sheldon).

Anas acuta Pintail

Generally uncommon except in southwestern areas, where it regularly visits Rwenzori NP, and in Karamoja. Jackson mentions records from L. Ruakatenge (Ankole/Kigezi border) and L. Wamala (Mubende). Annual Reports of the Game and Fisheries Department for the period 1937-60 mention birds in Ankole and Kigezi, and also Karamoja, where hundreds occurred at times at Longorokipi during the 1950s. Parties were recorded annually in the Rwenzori NP from 1964-72 (max. count c250 on 10 Jan 1972; extremes Nov and early Apr) (Eltringham 1973, J.M. Lock et al.). Large flocks also occurred in Kabalega Falls NP in late Nov 1968 (A.P. Ziegler), and a few were wintering on dams near Moroto early in 1967 (per J.M. Lock). More recently, 70+ were present at Mabamba swamp, Entebbe, on 31 Jan 1982 (M.J. Carswell) and there are Jan-Feb records for 1982-83 of singles at Kajansi and Kampala, and up to six at Kibimba Rice Scheme (M.J. Carswell, J.S. Ash).

Anas clypeata Shoveler

An uncommon and irregular visitor, occurring in small numbers, mainly in the southwest and the northeast. The only locality given by Jackson is L. Wamala. Annual Reports of the Game and Fisheries Department for the period 1937-60 mention occasional birds in Ankole, Kigezi and Karamoja. Occurred most years from 1964-72 in the Rwenzori NP (max. count 20) between late Oct and Feb (Eltringham 1973, J.M. Lock, DAT, DJP). Otherwise, the only records we have are of one near Moroto early Mar 1967 (per J.M. Lock), a few Kabalega Falls NP on 9 Feb 1970 (DAT) and nine at Kibimba Rice Scheme on 10 Oct 1982 (M.J. Carswell).

Anas crecca Teal

A rare and irregular visitor. Jackson refers to records from the Toro Crater Lakes. Up to four were present on the hippo wallows, Rwenzori NP, from 16 Dec 1969 to 27 Feb 1970, with one on 14 Nov 1970, up to eight from 10 Dec 1970 to Feb 1971, and 1 on 16 Oct 1971

(Eltringham 1973, J.M. Lock, M.P.L. Fogden, DAT). In Kabalega Falls NP A.P. Ziegler recorded one at Buligi on 2 Jan 1970 and eight at Pamdero during Feb 1970.

Anas penelope Wigeon

A rare visitor known from two records in Rwenzori NP: a full plumaged male on 21 Feb 1967 (J.W. Mascher) and another on 5 Dec 1970 (M.P.L. Fogden). There are however older references to occurrences in Karamoja (anon. 1955).

Aythya ferina Pochard

A rare visitor, but perhaps more common formerly. There are specimens bearing Pitman's label in the Uganda Museum, taken at L. Nakivali (Ankole) on 13 Nov 1925 (a male and a female) and at L. Mugisha (= Kayumba)(Kigezi) on 27 Dec 1938 (two females)(M.J. Carswell *in litt.*). There are two recent records, both from the hippo wallows, Rwenzori NP: a female during Dec 1969 and up to four birds from 4 Dec 1970 to 25 Jan 1971 (Eltringham 1973, M.P.L. Fogden).

Aythya fuligula Tufted Duck

A rare to uncommon visitor. Jackson refers to birds at L. N'kungula (W Ankole) and a few at L. Kikorongo (Toro) in Feb, while Chapin (1932) mentions records about 1925 from Butiaba, L. Albert, and L. Chahafi (Kigezi/Rwanda border); Mann (1976) mentions a male collected at L. Bisina (Teso) on 29 Dec 1912. The only recent records are from Rwenzori NP: one on 1 Jan 1966, two in Dec 1969, one on 10 Feb 1970, up to five in Jan 1971 and four on 10 Jan 1972 (J.M. Lock, M.P.L. Fogden, DJP, DAT).

Aythya nyroca White-eyed Pochard

Rare or vagrant. The only record is from Butiaba, L. Albert, where G.F. Archer shot one on 13 Nov 1901 (Jackson 1938).

Accipiter brevipes Levant Sparrowhawk

One was collected near the Achwa River, Parango, Lango, on 18 Mar 1929; specimen now in the British Museum (Pearson 1986).

[Accipiter nisus] Eurasian Sparrowhawk

Listed for Kidepo Valley NP by Elliot (1972) but not discussed. This is perhaps an error.

[Aquila clanga] Greater Spotted Eagle

Included for Uganda by Britton (1980) but we have been unable to obtain satisfactory substantiation from the observer.

Aquila nipalensis Steppe Eagle

Far scarcer than in Kenya, and the few records are all from the north and northeast. A.P. Ziegler (*in litt.*) observed Steppe Eagles in the Kabalega Falls NP, near Chobe, between late Dec and mid Mar 1969/70. DAT observed one in Kidepo Valley NP on 24-25 Mar 1970, and a few there on 13-14 Jan 1971 and 24-25 Mar 1972, while Mann (1971) records one near Mt Kadam (South Karamoja) in March 1967.

Aquila pomarina Lesser Spotted Eagle

First recorded only in 1969 but probably regular in small numbers, at least on passage. M.P.L. Fogden (*in litt.*) noted small groups of

4-12 on northward migration in Rwenzori NP during late Mar-early Apr in 1969, 1970 and 1971. Singles were recorded at Namulonge, near Kampala, on 19 Jan and 8 Oct 1971 (R.G. Passmore); a number were reported in the northern parks in early Feb 1976 (J.M. Thiollay); and recently, during 1983, J.S. Ash observed birds moving south with buzzards *Buteo buteo* at Entebbe on 9 Oct, and at Lwampanga SW of L. Kyoga on 11 Oct with two more on 13 Oct.

Buteo rufinus Long-legged Buzzard

This species apparently reaches Uganda in very small numbers. We have just four records: one picked up exhausted at Gulu on 2 Oct 1967 (J. Lindley); one Rwenzori NP 30 Dec 1968 (M.P.L. Fogden); two to three Kidepo Valley NP 24-25 Mar 1970 (DAT); and one Mt Kadam (South Karamoja) on 29 Dec 1971 (Rolfe & Pearson 1973).

Circus gallicus gallicus Short-toed Eagle

White (1965) mentions its occurrence at Mt Elgon, but we are unable to trace this record. Our only records of Palaearctic Short-toed Eagles are of birds seen at very close range in Kidepo Valley NP, one on 11 Jan 1971 (DAT) and the other on 24 Dec 1971 (Rolfe & Pearson 1973).

Hieraaetus pennatus Booted Eagle

Apparently regular, but uncommon; a few winter but most records are of southward passage migrants. Jackson mentions only a single bird, at Mityana in Feb 1902. C.F. Mann (*in litt.*) recorded one at Tororo in Nov 1964, and J.G. Williams (*pers. comm.*) saw a few there in mid-Oct 1968. Rolfe & Pearson (1973) summarized a number of observations of up to three birds on the forested lower slopes of Elgon between 16 Oct 1971 and 3 Apr 1972. There are single records from Kabalega Falls NP late Dec 1969, 28 Nov 1971 and 21 Mar 1972 (A.P. Ziegler, DAT, G.S. Keith); Rwenzori NP early Apr 1970 (M.P.L. Fogden); Namulonge, near Kampala 8 Oct 1971 (R.G. Passmore); Gaba, near Kampala 17 Jan 1982 (M.J. Carswell); Nabiswera, W of L. Kyoga 11 Oct 1983 (J.S. Ash); Lwampanga, SW of Kyoga 13 Oct 1983 (J.S. Ash); and Entebbe 17 Oct 1983 (M.J. Carswell). A few were moving south with buzzards *B. buteo* on the northern slopes of Elgon on 9 Oct 1983 (J.S. Ash).

Pernis apivorus Honey Buzzard

Probably a regular visitor, but generally uncommon and seldom recorded. Jackson mentions specimens taken in October and February and a bird which remained at Entebbe for two months early in 1901. We have the following recent records: one Soroti 21 Nov 1966 (Mann 1973); three flying NW over Budongo forest Apr 1967 (Mann 1973); one Entebbe 13 Dec 1969 (R. Frankum); one Kampala 22 Aug 1970 (R. Frankum); one Mukono 10 Mar 1971 (P. Hamel); and one Nabugabo, Masaka, 25 Oct 1983 (J.S. Ash).

Falco amurensis Eastern Red-footed Falcon

Known from only three records: a female Kampala Apr 1965 (Mann 1973); a group of three Rwenzori NP Apr 1970 (M.P.L. Fogden); and two Kibimba 7-8 Dec 1985 (M.J. Carswell).

Falco concolor Sooty Falcon

Widespread in small parties in Kabalega Falls NP and the Masindi area during Apr 1967 (Mann 1973). Reported also from Madi Apr 1969 (J. Mackenzie-Grieve).

[*Falco eleonora* Eleonora's Falcon

Recorded from Kidepo Valley NP by Britton (1980), but in the absence of sufficient substantiating detail we prefer not to include the species on the Uganda list.

[*Falco vespertinus* Red-footed Falcon

Recorded from Moroto by Mann (1971) but until details are available we prefer not to include the species for Uganda.

Falco naumanni Lesser Kestrel

Jackson does not record this species for Uganda, and it certainly occurs much less commonly and in smaller numbers than in Kenya, mainly in the drier north and east. It is everywhere greatly outnumbered by migrant Common Kestrels *Falco tinnunculus*. We have records from the north and east of up to 10 together, mid Oct to early Apr, localities including Kabalega Falls NP, Gulu, Kidepo Valley NP, South Karamoja, Teso District, Tororo and Kibimba (Busoga). Elsewhere, three were seen near Mbarara in Feb 1967 (DJP), and a few in Rwenzori NP Oct 1969 (M.P.L. Fogden) and near Kampala during early-mid Mar 1971 (R.G. Passmore).

Coturnix coturnix Common Quail

Stoneham (1926) stated that this was a common migrant at Kitgum in the winter months. We have examined a British Museum specimen collected at Entebbe on 2 Feb 1902, and confirm that this is of the nominate race.

Crex crex Corncrake

Jackson knew this species as a passage bird at Entebbe in Nov and Feb-Mar. There are also specimens in the British Museum from Ankole in Nov 1903 and Mubende in May 1908. First arrival in the Entebbe area in 1950 was reported as 18 Nov (anon 1950). We know of no recent Ugandan records.

Porzana parva Little Crane

G.F. Archer "collected four, lost one and saw two others" in a small group at Kitiaba, L. Albert, in early Dec 1901 (Jackson). There also exists in the British Museum an old undated specimen collected by R.B. Sharpe, and simply labelled 'Uganda'. There have been no recent records.

Porzana porzana Spotted Crane

There are but three Uganda records, all of single birds: from Kampala (the Kabaka's lake) 8 Dec 1899 (specimen in Nairobi Museum); from Karamoja (site unknown) 14 May 1931 (also in Nairobi Museum); and a sight record from Awoja (Teso) late Nov 1967 (Mann 1976).

Burhinus oedicnemus Stone Curlew

This species was not recorded for Uganda by Jackson, but there are several recent records from the north: one West Nile Feb 1969

(J. Mackenzie-Grieve); three or four near Moroto 21 Mar 1969 (DAT); and a flock of about 30 Kidepo Valley NP, 6-9 Jan 1970 (A.P. Zeigler). Zeigler (*in litt.*) also comments that R. Wheeler (then Warden) reported that it occurred in small numbers in most years in the Kabalega Falls NP in the mid-1960s.

Haematopus ostralegus Oystercatcher

One reported from Entebbe on 21 Mar 1915 (Meinertzhagen 1922) appears to be the sole acceptable record. The species is also listed for Rwenzori NP by J.M. Lock (*in litt.*) and M.P.L. Fogden (*in litt.*) but no details of this record can be traced.

[Charadrius alexandrinus Kentish Plover

One was claimed at Entebbe on 16 Mar 1950 (anon 1950), but in the absence of full details this cannot be included on the Uganda list.

Charadrius dubius Little Ringed Plover

Now an uncommon to rare visitor. Jackson mentions records from L. Albert in Nov and Dec, Entebbe in Dec and the Agua (= Agogo) River (Acholi) in Feb. Recorded in Entebbe in 1950 up to Mar and from mid Nov with six caught and ringed and a maximum of 35 present in Dec (anon 1950). More recently, only single birds have been seen, all in the Kabalega Falls NP, on 18 Nov 1965, 21 Sep 1970, 15 Jan 1972 and 21 Mar 1972 (J.M. Lock, DAT).

Charadrius leschenaultii Great Sandplover

There is a single record of a bird at Entebbe airport on 25 Sep 1966 (Pearson 1972a).

Charadrius mongolus Mongolian Sandplover

There is a single record of two birds in Rwenzori NP on 16 Jan 1969 (M.P.L. Fogden).

Pluvialis squatarola Grey Plover

Jackson mentions one collected at Butiaba in Nov. There are recent sightings from Entebbe: one on 16-17 Apr 1966 (DJP), one 12 Mar 1983 and 24 July 1983 (M.J. Carswell, J.S. Ash) and two on 20 Aug 1983 (J.S. Ash).

Numenius phaeopus Whimbrel

Small numbers occur regularly at L. Victoria, and perhaps L. Albert, with most records during southward migration. Jackson states that it regularly visits the Entebbe area in Sep and Feb. In 1950 it was recorded here each month, with up to 6-8 in Aug (anon 1950), while during 1966-68 DJP saw single birds here in all months Sep-Mar, and during 1983-84 J.S. Ash found up to three during Jan, Mar, Apr, July and Oct. R. Wheeler (*in litt.*) listed Whimbrel as a rare visitor to Kabalega Falls NP in Sep, Oct and Jan, and DAT saw one in Butiaba, L. Albert, on 8 Sep 1964. Finally, one was seen at Kibimba Rice Scheme (Busoga) on 18 Oct 1983, and a party of six at Katwe, Rwenzori NP on 11 Nov 1983 (D.E. Pomeroy).

Numenius arquata Curlew

Jackson mentions a Nov sighting at Butiaba by G.F. Archer. One was reported at Entebbe on 2 Aug 1935 (anon 1935), and one present there 17 July to 6 Aug 1950 was caught and ringed, as was one of two

present 27-28 Aug the same year (anon 1950). More recently, A.P. Zeigler (*in litt.*) and R. Wheeler (*in litt.*) recorded it in the mid 1960s as a rare visitor to Kabalega Falls NP in Oct and Apr, and DAT saw one there on 7 Aug 1970.

Tringa totanus Redshank

The only satisfactory records are from Rwenzori NP. It was seen there regularly in small numbers (max. 3), especially in Katwe Bay, during 1964-71, with extreme dates 29 Aug-25 Mar (J.M. Lock, M.P.L. Fogden, DJP).

Tringa erythropus Spotted Redshank

Now an uncommon but regular visitor to some localities in the south. The first records were from Rwenzori NP, where it occurred annually during Nov-Apr from 1964-72 (max. 12) (J.M. Lock, M.P.L. Fogden, DJP). Since 1966 there have been eight records of up to four birds near Kampala dated 16 Jan to 12 Mar (DJP, M.J. Carswell, Mann 1971), and single birds in northern Mengo district on 3 Feb and in Kabalega Falls NP on 10 Jan (DAT). Up to eight were recorded at Kibimba Rice Scheme between 5 Dec 1982 and 20 Feb 1983 (M.J. Carswell).

Xenus cinereus Terek Sandpiper

We have several records, mostly of single autumn birds: one Damba Is, L. Victoria, 26 Jan 1937 (anon 1937); 1-2 Entebbe 14 Aug to 4 Oct 1950 (1 ringed) and 1-2 28 Oct to 4 Dec of the same year (anon 1950); 1 Kabalega Falls NP 27 Nov 1966 (J.H. Phillips); and another 14 Sep 1971 (DAT); one Entebbe 30 Sep to 7 Oct 1967 (DJP, J.M. Lock); one Rwenzori NP 9-12 Oct 1970 (M.P.L. Fogden); and one Kibimba Rice Scheme 18-19 Oct. 1983 (J.S. Ash).

Gallinago media Great Snipe

Formerly well-known on southward passage, and apparently still locally common and regular in autumn in the southwest. Jackson refers to Nov-Dec records from Entebbe, Basujju (Mubende), Bukakata (Masaka), Butiaba on L. Albert and L. Ruaketenge (Ankole/Kigezi border). Mann (1976) mentions a bird taken at Kumi (Teso) on 10 Nov 1913. More recently A.P. Zeigler (*in litt.*) found parties in early Nov 1967 in Kabalega Falls NP (one was collected to confirm identification), and the species was found commonly at Mbarara during Nov in 1969, 1970 and 1971, with no less than 44 caught and ringed in 1970 (G.N. Harrington et al.). It is clearly scarce in autumn in Rwenzori NP, for M.P.L. Fogden (*in litt.*) recorded only a single bird in three years, and there are but two reports from Kampala, singles on 12 Dec 1966 (DJP) and in Jan 1970 (S & H Tompkins). A bird at Kabalega Falls NP on 1-2 Feb 1970 (Zeigler) was presumably wintering. The only spring records are from Entebbe, where DJP saw parties totalling 17+ flying north in rainy conditions on 23 Apr 1967, and from Kabalega Falls NP where Zeigler found one on 22 Apr 1968.

Lymnocyptes minimus Jack Snipe

G.F. Archer found considerable numbers and shot at least ten in a small marsh at Butiaba between 6 and 10 Dec 1901, and T.V. Fox collected one at Kumi (Teso) on 24 Nov 1913 (Jackson 1938). One was also reported shot in Ankole on 18 Nov 1949 (anon 1949). More

recently, C.F. Mann (*in litt.*) saw one at Tororo on 9 Oct 1967, and M.P.L. Fogden (*in litt.*) encountered the species on some fifteen to twenty occasions in Rwenzori NP during 1969-71 (dates not available).

Calidris alpina Dunlin

The only acceptable record is of a bird in breeding plumage in Rwenzori NP in Apr 1971 (M.P.L. Fogden, D.A. Scott).

Calidris temminckii Temminck's Stint

Jackson gives only two records, from Butiaba on 3 Nov and from L. Karenga (Ankole) on 12 Dec 1910, but up to eleven were reported at Entebbe between 16 Nov and 4 Dec 1950 when four were caught and ringed (anon 1950). This species now appears to occur regularly in small numbers. Up to five were seen annually in Rwenzori NP between 1964 and 1971, extreme dates 29 Aug and 13 Mar (J.N. Lock, M.P.L. Fogden), and DAT found singles in Kabalega Falls NP on 10 Jan and 29 Nov 1971. In the Kampala/Entebbe area single birds were seen at Kajansi on 29 Jan 1968 (DJP) and on 31 Jan and 18 Feb 1971 (R. Frankum, R.G. Passmore, P. Hamel), and at Namulonge on 29 Nov 1970 (R. Frankum, R.G. Passmore). Recently, small numbers have again been recorded at Kajansi from 23 Jan to 8 May 1982 (max. 10) and from 13 Nov 1982 to 16 Apr 1983 (max. 8), with three also at Entebbe on 31 Jan 1982 and two on 9 May 1982 and 19 Feb 1983 (M.J. Carswell, J.S. Ash).

Calidris alba Sanderling

An uncommon visitor which has occurred only during the southward passage period. G.F. Archer collected two, at Butiaba, on 10 and 15 Nov 1901 (Jackson). We have the following recent records: two Entebbe 7 Sep and one 14 Sep 1967 (DJP); one Kabalega Falls NP 10 Sep 1968 (DAT); one Kaazi, near Kampala, 26 Oct 1970 (R. Frankum); one Entebbe 4 and 6 Oct 1983 (J.S. Ash).

Limicola falcinellus Broad-billed Sandpiper

One collected in Rwenzori NP by J.M. Lock on 28 Feb 1964 is now in Nairobi Museum. Another was seen at the same site on 12-13 Oct 1970 (M.P.L. Fogden).

Limosa limosa Black-tailed Godwit

The Annual Report of the Game and Fisheries Department for 1949 mentions a bird on the L. Albert shore at Butiaba on 14 Dec (anon 1949). The species was also listed as having occurred in both the Rwenzori NP and the Kabalega Falls NP in the early 1960s, but we cannot trace the details. One was seen in Rwenzori NP on 2 Oct 1970 (M.P.L. Fogden), while a party of 15-20 occurred in Kabalega Falls NP on 15 Jan 1972 (DAT), and one at Mabamba swamp, Entebbe, on 27 Nov 1975 (Carswell 1977). Recent records of up to six at Mabamba 19 Sep-15 Nov 1982, six there on 18 Oct 1983 and 21 on 8 Nov 1983 (M.J. Carswell), eight in Rwenzori NP on 30 Dec 1982 (A.B. Sheldon) and one at Entebbe on 5 Jan 1984 (J.S. Ash) would suggest that this is now a more regular visitor.

Limosa lapponica Bar-tailed Godwit

There is a report of one at Entebbe on 29 Oct 1950, but no substantiating details are available (anon 1950).

Arenaria interpres Turnstone

An uncommon visitor, recorded only during the southward passage period. Jackson mentions an Oct bird on Sagitu Is., L. Victoria, and two at Entebbe on 29 Sep. R. Wheater (*in litt.*) saw birds at Kabalega Falls NP during the 1960s in Sep, Nov and Dec, and singles were present at Entebbe on 18 Sep 1966 (DJP), in Rwenzori NP in Dec 1969 (M.P.L. Fogden), and on Mayinja Is., L. Victoria, on 24 Oct 1982 (M.J. Carswell). During 1983, two were seen at Entebbe on 6 Oct and another on 14 Oct, and one at Butiaba on 12 Oct (J.S. Ash).

Phalaropus lobatus Red-necked Phalarope

One collected in Rwenzori NP by J.M. Lock on 14 Sep 1964 is in the Nairobi Museum. Four more were at the same site from 7 to 21 Jan 1971 (M.P.L. Fogden).

Glareola nordmanni Black-winged Pratincole

Although Jackson had no records for Uganda, the following recent records suggest that this species may occur regularly on spring passage in the west: c200 by the White Nile, Kabalega Falls NP, 10 Apr 1966 (DJP); c500 heading northwest over Chobe, Kabalega Falls NP, 2 Apr 1968 (A.P. Zeigler); a few Chobe 20 Apr 1969 (Zeigler); c100 Rwenzori NP 12 Apr 1970 (Zeigler). One (perhaps more) was also present in Kabalega Falls NP on 5 Oct 1970 (DAT).

The Black-winged Pratincole crosses the Sudan and eastern Zaire en route to and from the main winter quarters in southwestern Africa (Chapin 1939, Cramp & Simmons 1983). Seth-Smith's specimens and records of large numbers in mid-Apr in northern Uganda (van Someren 1922) were from Gondokoro, a place now in the Sudan. From Kenya there are only a few passage records, all of single birds or small groups.

Larus argentatus Herring Gull

Reported at Entebbe, but without details, in 1950, with two (adult and immature) on 6-8 Aug and singles occasionally up to 28 Oct (anon 1950). An adult was seen at Entebbe on 5 Mar 1972 (Frankum 1972) and a party of five on 21 Oct 1984 (M.J. Carswell). These were all grey-backed birds.

Larus ichthyaetus Great Black-headed Gull

The only record remains that of a first summer bird, which remained around Entebbe airport from 16 Apr to 25 Sep 1966 (Pearson 1971, Mann 1971).

Larus ridibundus Black-headed Gull

During 1971-72, at the time of the first major influx into Kenya and Tanzania, the species was recorded in Uganda as follows: one in breeding plumage near Kampala on 28 Mar 1971 (R. Frankum); an immature Kabalega Falls NP on 29 Nov 1971 (DAT, G.S. Keith); and two second-year birds L. Bisina (Teso) 31 Dec 1971-1 Jan 1972 (Rolfe & Pearson 1973). More recently, singles have been reported at Jinja on 20 Feb 1983 and at Entebbe on 10 and 12 Dec 1983 (J.S. Ash); also at Katwe, Rwenzori NP, on 13 Nov 1984 (D.E. Pomeroy).

Sterna hirundo Common Tern

First recorded in 1983, when Ash (1985) found an adult at Entebbe on 25 Apr and a first year bird there on 13 Jun.

Otus scops Scops Owl

Jackson refers to Palaearctic birds collected at Mpumu on 20 Mar 1911 and at Kyetema, L. Victoria, in Jan. The former specimen is in the British Museum (Nat. Hist.). We know of no satisfactory recent records.

Caprimulgus europaeus Eurasian Nightjar

Jackson mentions specimens from Entebbe, Butiaba and Ruchiga (Kigezi), all during Oct-Dec. The first arrival at Entebbe in 1950 is given as 2 Oct and said to be "early" (anon 1950). Again, we know of no recent records, and this species must be far scarcer than in neighbouring Kenya.

Streptopelia turtur Turtle Dove

First recorded in 1983, when J.S. Ash (1985) saw groups of up to five at Entebbe between 9 Oct and 6 Nov, with a minimum of seven individuals involved, and also found another bird at Kibimba (Busoga) on 8 Nov.

Apus melba melba Alpine Swift

The wintering range of the Palaearctic race should include much of western Uganda, but the only specimen assignable to this form is a bird collected in the Rwenzoris in Feb (Lack 1956). A.P. Zeigler (*in litt.*) recorded hundreds and occasionally thousands of Alpine Swifts travelling north with Eurasian Swifts *A. apus* in Kabalega Falls NP between 28 Jan and 2 Apr in 1968 and 1969, and these could well have included Palaearctic birds.

Apus pallidus Pallid Swift

A bird collected at Moroto in Jan was assigned to the race *brehmorum* (Lack 1956). This represents the only Uganda and East African record.

Coracias garrulus Eurasian Roller

Far less common than in neighbouring Kenya, and occurring mainly as a southward passage bird, it occurs regularly in the Kabalega Falls NP, extreme dates 22 Oct and 15 Jan, and in the Kampala/Entebbe area 10 Oct to 26 Dec (max. 10). There are also Oct-Dec records from West Nile, Rwenzori NP, Kigezi, Teso, Kibimba (Busoga), Mpumu and Nkosi Is, L. Victoria. The only spring records are from Entebbe on 31 Mar 1968 and 9 Apr 1983 (J.S. Ash, M.J. Carswell, DJP, DAT, A.P. Zeigler).

Upopa epops epops Hoopoe

Jackson regarded the Palaearctic race as regular but rare. It occurs mainly in dry country in the north. A.P. Zeigler (*in litt.*) found it not uncommon in the northern parks from Jan to Apr. Stoneham (1928) collected a bird of this race at Kitgum in Jan and believed that he saw others.

Jynx torquilla Wryneck

There are five substantiated records of the Wryneck from Uganda: one collected by W. Lowe at Palabek (Acholi) 24 Feb 1913, now in the

British Museum; one collected by R. Meinertzhagen at Entebbe 21 Oct 1915, also in the British Museum; one seen Kidepo Valley NP 11 Jan 1967 (A.P. Zeigler); one to two present Soroti Feb-Mar 1967 (Mann 1976); and one caught and ringed Kachong'a (Bukedi) 3 Mar 1971 and there retrapped three days later (Rolfe & Pearson 1973). The Entebbe bird shows the characters of the Corsican race *tchusii*.

Oriolus oriolus Golden Oriole

Apparently much less common than in Kenya, and recorded mainly on passage during Oct-Nov and Mar-Apr. Jackson gave Teso District, Mpumu and Entebbe as localities, while van Someren (1922) mentions Elgon, and Chapin adds Kigezi. Stoneham (1931) collected it at Kitgum in Nov and Apr. Recent records are of single birds and small parties in the Kampala/Entebbe area, mid Oct-mid Nov and Mar; in the Mbarara area mid Nov-Apr with some overwintering in 1969-70; in the Rwenzori NP on both southward (mainly mid Nov) and northward passages; in Kabalega Falls NP in late Oct, Jan and early Apr; around L. Kyoga in Oct; in Acholi in late Mar; and in Kidepo Valley NP in Apr (M.J. Carswell, G.R. Harrington, M.P.L. Fogden, A.P. Zeigler, J.S. Ash, DAT, DJP).

Cercotrichas galactotes Rufous Bush Chat

The only record is of a bird seen by A.P. Zeigler in Kidepo Valley NP on the early date of 16 Oct 1969. This sighting was supported by a full description (see Rolfe & Pearson 1973) and undoubtedly refers to the Palaearctic race.

[Luscinia luscinia] Sprosser

Although Vaurie (1959) mentions this species as occurring in Uganda, we have not been able to trace the record. We know of no recent occurrence.

Luscinia megarhynchos Nightingale

An uncommon visitor, but found in some numbers at L. Kyoga where it is probably regular. There are specimens from Mpumu in the British Museum dated 3 Dec 1914 and 3 Jan 1915, both nominate birds. Jackson also mentions recording it at Butiaba in Nov. More recently, Rolfe & Pearson (1973) found this species wintering commonly on the eastern shore of L. Kyoga, and also recorded it in Nov 1971 and Jan 1972 at L. Bisina (Teso). DJP had five records from the Kampala/Entebbe area during 1966-68, dated Nov-Jan; of three netted, two were nominate birds, but one at Kaazi on 9 Nov 1967 was of the eastern race *hafizi* (Pearson 1972a). The only other records we have are of singles along the Nile during Feb and Mar, in Kabalega Falls NP and West Nile.

Monticola saxatilis Rock Thrush

A locally common and regular visitor between Nov and Mar to Karamoja, Teso and Bukedi. Further west, Jackson gives West Nile, Nakasongola (northern Mengo), Entebbe and Mbarara as localities. We have recent records from Arua in Jan 1968 (J. Mackenzie-Grieve); the Gulu area 16 Jan to 26 Mar and 29 Nov 1967 (J. Lindley); and Kabalega Falls NP where A.P. Zeigler (*in litt.*) and R. Wheeler (*in litt.*) saw a few each year 1967-69, extreme dates 3 Dec and 14 Mar. Single birds

were also seen in the Kampala/Entebbe area 18-28 Dec 1970, 10-17 Jan 1971, 8 Dec 1983 and 7 Jan 1984 (R.G. Passmore, J.S. Ash), and in Rwenzori NP around 1970 (M.P.L. Fogden).

Phoenicurus phoenicurus Redstart

A locally common and regular visitor between Nov and Mar south to Kabalega Falls NP, L. Kyoga and Tororo. Further south, Jackson lists Mbarara and Entebbe as localities. More recently, one was seen at Kaazi on 29 Jan 1967 (DJP) and one at Rwenzori NP on 3 Dec 1969 (M.P.L. Fogden), while several were present near Mbarara from 7 Nov to 21 Mar 1969/70 and from 14 Nov to 4 Apr 1970/71 (G.R. Harrington et al.).

Oenanthe pleschanka Pied Wheatear

A locally common to abundant visitor to Karamoja and Teso, with small numbers south to Mbale and Tororo. It was seen occasionally in the late 1960s around Gulu and in the Kabalega Falls NP between Dec and Feb (J. Lindley, A.P. Zeigler, DAT). Recorded in the south and south-west at Bugiri (Busoga) on 5 Mar 1968 (DJP, J.H. Phillips), at Kampala on 13 Dec 1971 (R.G. Passmore), three or four times in Rwenzori NP in 1969-71 (M.P.L. Fogden) and near Layontonde (Masaka) on 12 Dec 1983 (J.S. Ash).

Acrocephalus griseldis Basra Reed Warbler

Known in Uganda from three records: one caught and ringed at Gaba, near Kampala on 13 Nov 1966, and another on 25 Nov 1967 (Pearson 1972b); one seen about 30 km E of Serere (Teso) on 20 Nov 1983 (J.S. Ash).

Acrocephalus palustris Marsh Warbler

Jackson mentions birds collected at Masindi in Nov and at Mbarara in Feb. However, unless specimens can be located and examined, these records need to be regarded with caution. Reed Warblers *A. scirpaceus* occur quite commonly in Uganda, and specimens of this species have frequently been misidentified in the past as Marsh Warblers. Five Marsh Warblers were caught at Gaba, near Kampala, between 19 Nov and 2 Dec 1967 (Pearson 1972a), one of which is now in Nairobi Museum. Despite extensive netting over three seasons, M.P.L. Fogden did not detect this species in Rwenzori NP.

Hippolais icterina Icterine Warbler

Probably a regular passage bird in small numbers, but there are rather few records. Jackson mentions a bird at Entebbe on 29 Sep 1916, and there are specimens in the British Museum from 'Kibusi' (Lango) 31 Mar 1910 and Nyakabande (Kigezi) 26 Oct 1933. More recently, during 1969-71, M.P.L. Fogden (*in litt.*) found small numbers regularly on Oct-Nov and Apr passage in Acacias in the crater area of Rwenzori NP. Other records are: one wintering and singing in a Kampala garden Dec 1965 to Mar 1966, and again Nov 1966 to Feb 1967 and Dec 1967 to Mar 1968 (DJP); another bird Kampala 18 Mar 1966 and one to two more 1-5 Apr 1966 (DJP); one Awoja (Teso) 6 Nov 1966 (Mann 1976); one Entebbe 7 Oct 1967 (DJP); one Kabalega Falls NP 27 Oct 1968 (A.P. Zeigler); one Kachong'a (Bukedi) 30 Mar 1971 (J.G. Rolfe, DJP); one singing Kampala 30 Nov 1971 (R. Frankum); and one Mukono 26 Mar 1972 (per M.J. Carswell).

Hippolais languida Upcher's Warbler

The only satisfactory records are from the southeast: one caught and ringed Kachong'a (Bukedi) 20 Mar 1971 and another seen at the same site 30 Mar 1971 (J.G. Rolfe); one caught and ringed L. Bisina (Teso) 24 Mar 1971 (J.G. Rolfe); another seen L. Bisina 2 Apr 1972 (J.G. Rolfe, DJP).

Locustella fluviatilis River Warbler

The only record is of a bird netted and collected at Mweya, Rwenzori NP on 24 Nov 1970 (M.P.L. Fogden).

Sylvia nisoria Barred Warbler

Jackson mentions only a single occurrence in Uganda, a bird recorded by G.F. Archer at Butiaba on 30 Nov 1901. Recent records are as follows: up to three Gaba, near Kampala, 11 Dec 1966 to 15 Jan 1967, and up to three again 23 Nov to 3 Dec 1967 (DJP); singles Entebbe 26 Mar and 9 Apr 1967, and up to three there 19-24 Dec 1967 (DJP); one Kabalega Falls NP 21 Dec 1968 (A.P. Zeigler); singles Tororo 20 Mar and 5 Nov 1971, Kachong'a (Bukedi) 29 Mar 1971 and L. Bisina (Teso) 28 Nov 1971, and at least four L. Bisina 30 Mar 1971 (Rolfe & Pearson 1973); one Entebbe 6 Nov 1983 (J.S. Ash).

Sylvia communis Whitethroat

A regular and locally common winter visitor to south Karamoja, Teso and Bukedi from Nov to early Apr. Elsewhere there are only a few records, as follows: one collected at Parosa (Lango) 16 Feb 1910; eight birds (six caught and ringed) in the Kampala/Entebbe area 1966-68 between 19 Nov and 9 Feb (DJP); another at Entebbe 25 Dec 1971 (R. Frankum); one Gaba 21 Apr 1978 and one Entebbe 4 Dec 1982 (M.J. Carswell). There are no records from the west. The great majority of Uganda birds are referable to the eastern race *icterops* or *volgensis*.

Phylloscopus collybita Chiffchaff

Jackson gives possible records from Mubende on 30 Mar and Entebbe on 2 Oct; the latter would represent a very early date for this species in tropical Africa. Sight records from Kampala are also listed for 13 Feb and 23 Feb 1970 (Uganda Journal Bird Newsletter) but without supporting details, and in view of the variety of plumage and leg colours encountered in Willow Warblers *P. trochilus* in East Africa, it seems best to treat these with caution.

Rolfe & Pearson (1973) netted two Chiffchaffs (race *abietinus* and observed another in bush on the southern shore of L. Bisina (Teso), alt. 1000m, on 19 Dec 1971. These were presumably on passage to wintering grounds on Mt Elgon or Mt Kadam. Between 20 Dec 1971 and mid Mar 1971 the species was found to be fairly common in the Cheptui and Chebonnet valleys of NW Elgon, mainly at 2500-3000m, and one was seen on NE Elgon in the heath zone at 4000m near the Kenya border. There appear to be no records from the Rwenzoris.

Phylloscopus sibilatrix Wood Warbler

Jackson refers to records from Mpumu on 26 Feb 1912 and from Nkosi Is., L. Victoria, 12 Dec 1929. Both specimens are in the British Museum. The latter was collected by C.R.S. Pitman who recorded others present at the time. Recent records are as follows: one Gulu

12 Nov 1967 (J. Lindley); birds collected Impenetrable Forest 2 and 4 Apr 1967 (Keith et al. 1968); one collected Malabigambo Forest (Masaka) 13 Feb 1968 (Friedmann & Williams 1969); one Mukono 29 Dec 1970 (P. Hamel); one netted Maramagambo Forest, Rwenzori NP, about 1969 (M.P.L. Fogden); singles Entebbe 27 Mar and 5 Apr 1983 (J.S. Ash); singles in Teso, 14 km west of Serere 16 Nov, and 10 km west of Magoro 19 Nov 1983 (J.S. Ash); one near Mbarara 13 Dec 1983 (J.S. Ash).

Motacilla cinerea Grey Wagtail

Quite frequent between Oct and Mar on streams above 2000 m on the northern side of Elgon (J.G. Rolfe), and wintering regularly in ones and twos at about 2400 m on Rwenzori above Kilembe (M.P.L. Fogden). Jackson mentions occurrences at Kampala and Katonga River (Ankole), while Stoneham (1929) records it from Acholi on the Pagea and Achwaa Rivers. Other recent records from the west are of single birds in the Impenetrable Forest on 9 Feb 1968 (DAT), from Kalinzu Forest on 16 Nov 1969 (Friedmann & Williams 1970), and from Kibale Forest on 11 Jan 1972 (DAT).

Motacilla alba White Wagtail

Jackson describes it as widely distributed in Uganda but nowhere plentiful. Its numbers may have declined in Uganda, where it now seems to be considerably scarcer than in Kenya. We have the following recent records: a few each year in the late 1960s and early 1970s in Kabalega Falls NP from mid Nov to Feb (A.P. Zeigler); recorded as uncommon in Teso in the 1960s (C.F. Mann); a single, Rwenzori NP, 1 Jan 1966 (DJP, J.M. Lock) which seems to be the only park record; singles in the Kampala area Dec 1969 to Jan 1970 and 26 Jan 1972 (per M.J. Carswell).

Anthus campestris Tawny Pipit

The only record is of one at Entebbe airport on 4 Dec 1966 (Pearson 1972a).

Anthus cervinus Red-throated Pipit

Not recorded for Uganda by Jackson, although Stoneham (1929) gives it as not uncommon on migration in Lango. It seems to be much scarcer than in neighbouring Kenya. We have occasional records of up to 10 birds from Kabalega Falls NP 1965-72, dated 18 Dec to 22 Mar (DAT, DJP, R. Wheeler, A.P. Zeigler), and two were seen in Kidepo Valley NP on 26 Dec 1971 (DJP, J.G. Rolfe). M.P.L. Fogden (*in litt.*) frequently recorded wintering birds in Rwenzori NP in 1969-71. Decidedly uncommon at L. Victoria: DJP saw singles near Kampala 22 Jan 1967 and two Entebbe 24 Mar 1967, while J.S. Ash (*in litt.*) saw singles Entebbe 6 Mar and 1 Apr 1983 and up to 12 there on several dates between 9 Dec 1983 and 7 Jan 1984. Recent records from Kibimba Rice Scheme (Busoga), 1981-83, dated 8 Nov to Feb, have involved larger numbers (max. 40) (M.J. Carswell, J.S. Ash).

Ficedula albicollis Collared Flycatcher

Although the nominate race passes through Rwanda (Van de weghe 1979) we can trace no definite record or specimen from Uganda. The race *semitorquata* (common on passage Rwanda) appears to be an uncommon

and unobtrusive passage migrant in Uganda during Sep-Oct and Feb-Mar. There has been confusion in the past, and a number of birds which were probably *semitorquata* were identified in the field as Pied Flycatchers *F. hypoleuca*.

The following records of *semitorquata* can be considered reliable: males collected by Seth-Smith at Budongo on 22 Feb 1907 and at Butiaba on 15 Mar 1907 (Chapin 1953); females collected by G.F. Archer in the Rwenzori foothills (Toro) on 2 Feb and 3 Mar 1902 (specimens in the British Museum); a female ringed by M.P.L. Fogden in Rwenzori NP on 5 Mar 1971. In addition, one ringed by R. Frankum at Kampala on 7 Sep 1970 had a wing-length which would virtually exclude *hypoleuca*; *hypoleuca* would be extremely unlikely anyway on such an early date.

The following sight records are indeterminate on the evidence available: 1 Kaazi 29 Sep 1966; a male Kampala 26 Feb 1968; one Kampala 24 Sep 1968; a male Paraa Feb 1970 and another male Chobe Mar 1970, both in Kabalega Falls NP; a female Mbarara 17 Mar 1970; two birds Entebbe 8 Oct 1983. There seem to be no satisfactory records of *hypoleuca* from the Sudan (G. Nikolaus, pers. comm.) or indeed anywhere east of the northern fringes of the Congo forests. The above birds are probably therefore all *F. albicollis*, the three males at least of the race *semitorquata* since they lacked the full neck collar (see Britton 1980b, also Pearson 1981).

Lanius senator Woodchat Shrike

Although rarely seen in Kenya, this species is a regular visitor in small numbers to northern Uganda, south to Butiaba (Bunyoro), Acholi and southern Karamoja, recorded between late October and mid Apr, but mainly from Dec to early Apr. Further south there are records from Mabira (Jackson), from Soroti on 20 Feb 1969 (DAT), from Rwenzori NP on 1 Jan 1966 (DJP, J.M. Lock), from Kampala on 10 Mar and 5 Apr 1970 (M.J. Carswell), and from Entebbe where two individuals were involved between 1 and 29 Mar 1983 (J.S. Ash).

APPENDIX: COMMONER PALAEARCTIC VISITORS TO UGANDA

Ciconia ciconia White Stork. Mainly a passage migrant, more common in spring (late Feb-Apr) than in autumn (Nov); largest spring flocks - up to thousands - have been seen in the east and northeast.

Anas querquedula Garganey. Locally abundant in the southwest, especially in the Rwenzori NP, mainly Nov-Mar; also at times in Karamoja and some central areas, and recently at the Kibimba Rice Scheme in the southeast. Decidedly uncommon at L. Victoria.

Circus aeruginosus Marsh Harrier. Frequent to common in small numbers, late Oct-Mar, in the western rift; scarcer at Lakes Kyoga and Victoria.

Circus macrourus Montagu's Harrier. Locally common to abundant in the western rift, late Oct-Mar, and locally common in short grass-land areas elsewhere in the north and east; scarce near L. Victoria.

Circus pygargus Pallid Harrier. Locally frequent to common in the rift, and in the north and east, mainly Dec-Mar.

Buteo buteo Common Buzzard. Mainly a passage migrant, with flocks of up to many hundreds moving south at eastern, central and southern localities early-mid Oct, and a few moving north in Mar. Small numbers overwinter.

Falco tinnunculus Common Kestrel. Widespread and frequent to common in many areas, Nov-Mar, especially in the north.

Falco subbuteo Hobby. A widespread and frequent passage migrant, Oct-Nov and Mar-Apr, with occasional records Dec-Feb.

Charadrius hiaticula Ringed Plover. Locally frequent to common at lakes, rivers and dams, late Sep-early May.

Charadrius asiaticus Caspian Plover. Recorded Sep-Apr, mainly from the north and west. Common to abundant in short open grassland in the northwest.

Tringa nebularia Greenshank. Widespread and locally common in small numbers, Aug-Apr; a few oversummer.

Tringa stagnatilis Marsh Sandpiper. Locally common to abundant near L. Edward, Sep-Mar, but scarce to uncommon in most other areas.

Tringa ochropus Green Sandpiper. Widespread but rather solitary and generally uncommon, Sep-Mar.

Tringa glareola Wood Sandpiper. Widespread and common to very abundant on lake edges and swampland, Aug-Apr, with a marked passage Aug-Oct.

Actitis hypoleucos Common Sandpiper. Widespread and generally common to abundant, late Jul-Apr, with apparent passage Aug-Oct.

Gallinago gallinago Common Snipe. Locally common on swampy lake margins Nov-Mar.

Philomachus pugnax Ruff. Common to very abundant on the rift valley lakes, especially L. Edward, late Aug-early May. Generally less regular and in small numbers elsewhere.

Calidris minuta Little Stint. Widespread and locally common to abundant, Aug-May, especially at L. Edward.

Calidris ferruginea Curlew Sandpiper. Common to abundant at L. Edward mainly Aug-May, but little recorded elsewhere and scarce at L. Victoria.

Larus fuscus Lesser Black-backed Gull. A regular and common visitor to the major lakes, mainly Sep-May.

Gelochelidon nilotica Gull-billed Tern. Abundant on Lakes Edward and George, mainly Sep-Apr; generally uncommon on lakes and rivers elsewhere.

Chlidonias leucopterus White-winged Black Tern. Common to very abundant, especially at the larger lakes, with many remaining throughout the year.

Cuculus canorus Eurasian Cuckoo. A passage migrant, regular in small numbers in the west, late Mar-Apr, but only occasionally recorded Oct-Nov.

Apus apus Eurasian Swift. Mainly a passage migrant mid Aug-Oct, especially in the south, but heavy northward migration has been noted in the northwest during late Feb-Apr.

Merops apiaster Eurasian Bee-eater. A widespread, often abundant passage migrant, Sep-early Nov and late Mar-Apr. There are few Dec-Feb records.

Merops persicus Blue-cheeked Bee-eater. A common to abundant visitor to lake edges and swampland, mainly Nov-Mar.

Delichon urbica House Martin. Locally abundant above 2000 m on Mt Elgon, Oct-Apr, and locally common at or near higher ground in Karamoja. Scarce to uncommon elsewhere, with most records of presumed passage birds Sep-Oct and Mar-May. There seem to be few records from the southwestern highlands.

Hirundo rustica Eurasian Swallow. A very widespread and abundant visitor, mainly late Aug-Apr, but with records in all months.

Riparia riparia Sand Martin. An abundant to very abundant visitor to the larger lakes from Sep to early May.

Oenanthe isabellina Isabelline Wheatear. Common to abundant Nov-Mar, in the north and east, especially in Karamoja, but there are few records from the south or southwest.

Oenanthe oenanthe Northern Wheatear. Common to abundant in the north and east Oct-Mar. Generally uncommon in the south and southwest where it occurs mainly during Oct-Dec.

Saxicola rubetra Whinchat. Common to abundant, especially in tall grasslands in the west, mainly Oct-early Apr.

Acrocephalus arundinaceus Great Reed Warbler. Locally frequent to common on the northern shores of L. Victoria Dec-Mar, but otherwise recorded only from Lakes Kyoga and Albert, the Victoria Nile and Rwenzori NP.

Acrocephalus schoenobaenus Sedge Warbler. Common to abundant, mainly Dec-Apr, along the shores of lakes and larger rivers. Marked passage is evident mid-late Apr.

Acrocephalus scirpaceus Reed Warbler. Common to abundant in moist thicket, mainly late Oct-early Apr, in the western rift valley, near Lakes Victoria, Kyoga and Bisina, and along the Victoria Nile.

Hippolais pallida Olivaceous Warbler. Widespread and common to abundant in eastern and northern *Acacia* areas, late Oct-early Apr. Occurs in small numbers in the rift valley in the southwest, but is almost unrecorded near L. Victoria.

Sylvia atricapilla Blackcap. Common to abundant above 2000 m on the Rwenzoris and on Mt Elgon, late Oct-Mar. There are occasional winter records from elsewhere, e.g. from West Nile, Kabalega Falls NP, the Kampala area, Teso and the Impenetrable Forest.

Sylvia borin Garden Warbler. Common to abundant near L. Victoria mid Oct-Apr, with a marked passage late Oct-Dec. In the west and south-west, in Teso and on Mt Elgon it is common to abundant on passage, especially Nov-Dec, but few overwinter.

Phylloscopus trochilus Willow Warbler. Widespread and common to abundant late Sep-Apr, except in the dry north and northeast. Marked passage Oct-early Nov and late Mar-Apr.

Muscicapa striata Spotted Flycatcher. Mainly a passage migrant, common and widespread Oct-early Dec and Mar-early Apr; decidedly scarce in winter.

Anthus trivialis Tree Pipit. A widespread but generally rather uncommon visitor to open woodland and wooded grassland habitats, Oct-Mar; locally abundant at higher altitudes.

Motacilla flava Yellow Wagtail. Widespread and common to very abundant in open habitats in the more humid areas, mainly Oct to mid Apr, with passage indicated by augmented numbers late Oct-Nov and late Mar to early Apr. Most birds can be racially assigned to *thunbergi* or *flava/thunbergi* intergrades.

Lanius collurio Red-backed Shrike. Common to abundant on southward passage mid Oct to early Dec, especially in the western half of the country; frequent late Mar-Apr. There is a single Feb record from Entebbe.

Lanius isabellinus Red-tailed Shrike. Locally common in Teso and Bukedi, and near Lakes Albert and Victoria, Nov to early Apr, but few records from elsewhere. Evidence of passage Kabalega Falls NP Nov and Mar to early Apr.

Lanius minor Lesser Grey Shrike. Widespread and common to abundant on northward passage during Apr; uncommon Oct-Nov.

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GAZETTEER

Achwa (= Aswa) River	3.44 N	31.56 E
Agua (= Agogo) River	2.54 N	32.37 E
Arua	3.01 N	30.55 E
Awoja	1.40 N	33.44 E
Bisina (= Salisbury) Lake	1.38 N	33.56 E
Budongo Forest	1.45 N	31.35 E
Bugiri	0.35 N	33.42 E
Bukakata	0.18 N	32.02 E
Buligi	2.19 N	32.23 E
Busujju County	0.20 N	32.10 E
Butiaba	1.49 N	30.19 E
Chahafi, Lake	1.21 S	29.47 E
Chebonnet Valley	1.18 N	34.31 E
Cheptui Valley	1.17 N	34.29 E
Chobe	2.16 N	32.11 E
Damba Island	0.00	32.47 E
Edward, Lake	0.25 S	29.30 E
Elgon, Mount	1.08 N	34.33 E
Entebbe	0.04 N	32.28 E
Gaba	0.15 N	32.38 E

Gondokoro (SUDAN)	4.47 N	31.38 E
Gulu	2.47 N	32.18 E
Ibanda	0.08 S	30.28 E
Impenetrable Forest	1.00 S	29.40 E
Jinja	0.26 N	33.12 E
Kaazi	0.14 N	32.37 E
Kabalega (= Murchison) Falls NP	2.15 N	31.50 E
Kachong'a	0.58 N	34.03 E
Kadam, Mount	1.45 N	34.42 E
Kajansi	0.13 N	32.32 E
Kalinzu Forest	0.25 S	30.05 E
Kampala	0.19 N	32.34 E
Karenga (= Karengye), Lake	0.54 S	30.07 E
Katonga River	0.05 S	31.55 E
Katwe	0.08 S	29.52 E
Kibanga Port	0.12 N	32.53 E
Kibale Forest	0.30 N	30.25 E
Kibimba	0.42 N	33.51 E
Kibusi	Unlocated: Lango	
Kidepo Valley NP	3.50 N	33.45 E
Kikorongo, Lake	0.01 S	30.01 E
Kilembe	0.21 N	30.01 E
Kitgum	3.18 N	32.53 E
Kumi	1.29 N	33.56 E
Kyetema	Unlocated: on Murchison Gulf, L. Victoria	
Kyoga, Lake	1.30 N	33.00 E
Layontonde	0.23 S	31.09 E
Longorokipi	2.24 N	33.54 E
Lwampanga	1.30 N	32.30 E
Mabamba Swamp		
Mabira	0.30 N	32.55 E
Magoro	1.44 N	34.06 E
Malabigambo Forest	0.57 S	31.35 E
Maramagambo Forest	0.33 S	29.53 E
Masindi	1.41 N	31.43 E
Mayinja Island	0.09 N	32.36 E
Mbale	1.05 N	34.10 E
Mbarara	0.37 S	30.39 E
Mityana	0.24 N	32.03 E
Moroto	2.32 N	34.40 E
Mpumu	0.14 N	32.49 E
Mubende	0.34 N	31.22 E
Migisha (= Kayumba), Lake	1.20 S	29.48 E
Mukono	0.22 N	32.45 E
Mweya	0.11 S	29.53 E
Nabiswera	1.28 N	32.17 E
Nabugabo, Lake	0.22 S	31.52 E
Nakasongola	1.19 N	32.28 E
Nakivali, Lake	0.47 S	30.53 E
Namulonge	0.32 N	32.37 E

Nkosi Island	0.44 S	32.20 E
N'kungula (? = Nkugute) Lake	0.20 S	30.06 E
Nyakabande	0.17 S	29.44 E
Pader Gem	2.48 N	33.03 E
Pagea (= Pager) River	3.09 N	32.31 E
Pakwach	2.28 N	31.30 E
Palabek	3.26 N	32.34 E
Pamdero	2.24 N	31.41 E
Paraa	2.18 N	31.35 E
Parango	2.37 N	32.56 E
Parosa	Unlocated: Lango	
Ruakatenge, Lake	0.53 S	30.05 E
Ruchiga County	1.05 S	30.00 E
Rwenzoris (Mts)	0.20 N	30.00 E
Rwenzori (= Q.Elizabeth) NP	0.15 S	30.00 E
Sagitu Island	0.01 S	33.40 E
Serere	1.31 N	32.27 E
Soroti	1.43 N	33.37 E
Toro crater lakes	0.05 S	29.55 E
Tororo	0.42 N	34.11 E
Wamala, Lake	0.22 N	28.58 E

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THE AVIFAUNA OF OL DOINYO OROK, A FOREST ISLAND: INITIAL FINDINGS

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Ol Doinyo Orok is an isolated hill just north of Namanga, Kajiado District, some 150 km south of Nairobi. It is composed of folded Precambrian metamorphic rocks of the basement system, mostly micaceous schists (Joubert 1957). The hill rises to a maximum height of 2548m from a peneplain at 1300m; it extends for 15km from north to south and 10km from west to east. The Namanga Forest Reserve, gazetted in 1979, incorporates the entire hill.

The vegetation on the lower slopes is predominantly woodland with areas of bushed grassland. The southern half of the hill, however, forms a basin of internal drainage 18km in area with a single outlet on the south, the Namanga River; this basin is clothed in evergreen forest with a closed canopy and generally sparse ground cover, interspersed with clearings densely overgrown with shrubs, grass and herbs. The slopes are very steep and soils appear to be unstable; the valley bottoms are often swampy.

The forest is separated by 22km from a small forest tract on Mt Longido to the south. The extensive highland forest of Mt Kilimanjaro is some 65km away. Forest 'islands' such as Ol Doinyo Orok are often of great biological interest, yet the hill appears to have been largely neglected by naturalists, possibly deterred by the precipitous slopes and numerous buffalo *Syncerus caffer*.

We camped in the forest from 21 to 24 March 1986, following an initial visit by CG from 14 to 17 February. Our base was in the river valley at 1780m, at the point where the river leaves the swamps over a rock barrier, before it plunges steeply down towards Namanga town. The surrounding area was dry at the time of our visit, we experienced no rain and early morning dew was light.

THE AVIFAUNA

Birds were trapped during the morning and evening of 22 and 23 March and the morning of 24 March. Four pairs of 12m mist nets were set on the western slope of the valley, well inside the forest but within 150m of the river. The following species were caught (numbers in brackets):

Lemon Dove *Aplopelia larvata* (6), Pale-breasted Illadopsis *Trichastoma rufipennis* (2), Yellow-whiskered Greenbul *Andropadus latirostris* (2), Stripe-cheeked Greenbul *Andropadus milanjensis* (1), Placid Greenbul *Phyllastrephus placidus* (3), Rüppell's Robin Chat *Cossypha semirufa* (4), White-starred Forest Robin *Pogonocichla stellata* (5), Olive Sunbird *Nectarinia olivacea* (2), Abyssinian Crimson-wing *Cryptospiza salvadorii* (3).

Other species were recorded in or over the forest, or along the river, as follows:

Black Stork *Ciconia nigra*, African Black Duck *Anas sparsa*, Rufous Sparrowhawk *Accipiter rufiventris*, Mountain Buzzard *Buteo tachardus*, Bronze-naped Pigeon *Columba delegorguei*, Tambourine Dove *Turtur tympanistra*, Olive Pigeon *Columba arquatrix*, Hartlaub's Turaco *Tauraco hartlaubi*, Black Cuckoo *Cuculus clamosus*, Red-chested Cuckoo *Cuculus solitarius*, African Wood Owl *Ciccaba woodfordi*, Montane Nightjar *Caprimulgus poliocephalus*, Silvery-cheeked Hornbill *Bycanistes brevis*, African Rock Martin *Hirundo fuligula*, White-headed Roughwing *Psalioprocne albiceps*, Black Roughwing *P. pristopectera*, Drongo *Dicrurus adsimilis*, White-necked Raven *Corvus albicollis*, Northern Olive Thrush *Turdus abyssinicus*, Grey-backed Camaroptera *Camaroptera brachyura*, Willow Warbler *Phylloscopus trochilus*, Blackcap *Sylvia atricapilla*, Garden Warbler *S. borin*, White-eyed Slaty Flycatcher *Melaenornis chocolatina*, Dusky Flycatcher *Muscicapa adusta*, Paradise Flycatcher *Tersiphone viridis*, African Pied Wagtail *Motacilla aguimp*, Mountain Wagtail *M. clara*, Black-backed Puffback *Dryoscopus cubla*, Tropical Boubou *Laniarius barbatus*, Sharpe's Starling *Cinnyricinclus sharpii*, Collared Sunbird *Anthreptes collaris*, Variable Sunbird *Nectarinia venusta*, Montane White-eye *Zosterops poliogastra*, Baglafaecht Weaver *Ploceus baglafaecht*, Spectacled Weaver *P. ocularis* and Oriole Finch *Linurgus olivaceus*.

Although conditions were dry, there was evidence that several species were breeding or had recently bred. Two White-starred Forest Robins caught were in fresh juvenile plumage, while a juvenile Olive Sunbird was just initiating primary and body moult. A pair of Northern Olive Thrushes was followed by a dependent juvenile. One each of the Rüppell's Robin Chats and Placid Greenbuls captured had a well-developed brood patch, and a pair of Yellow-whiskered Greenbuls was incubating eggs. A male Baglafaecht Weaver was building on a half-completed nest over the river, and Lemon Dove and Bronze-naped Pigeon males were displaying vigorously to attendant females.

Most of the species recorded range widely in the highlands of central Kenya and northern Tanzania. The Tawny Eagle (seen perched on large trees along the river) and Drongo (seen flying from the river into the forest) were presumably intruders from the surrounding woodland. Certain other records are noteworthy:

Rufous Sparrowhawk. One immature bird near the river, 24 March. This is an extension of its Kenyan range, but it is recorded from Arusha, northern Tanzania (Britton 1980).

White-headed Roughwing. This record adds another site to its fragmented eastern range.

Pale-breasted Illadopsis. Two illadopses, apparently adults, were captured together at dusk on 22 March. Their specific identity was determined by use of the key in Mackworth-Præd & Grant (1960), and confirmed from examination of specimens in the National Museum, Nairobi. They were separated from the Mountain Illadopsis *Trichastoma pyrrhopterum* by the generally paler underparts and the

absence of olive-brown on the belly. There was, however, a considerable amount of olive-brown on the flanks, suggesting that these birds might be closer to *distans*, the eastern Tanzanian race, than the nominate western race (*rufipennis*). This record constitutes a remarkable extension of range; the nearest known population is in the East Usambaras, more than 280 km away.

Stripe-cheeked Greenbul. This extends the species' range north-westwards; it is known from Mts Meru and Kilimanjaro.

White-starred Forest Robin. The race of these birds is uncertain, although the proximity of Mts Meru and Kilimanjaro would suggest *guttifer* (Britton 1980). The two young birds captured were in standard yellow and black juvenile plumage. However, another bird, otherwise in full adult plumage, had several head feathers clearly tipped with green (above and behind the eye, and on the forehead). This suggests it might have moulted from the green immature stage, absent in *guttifer* (Mackworth-Praed & Grant 1960). Specimens are needed.

Montane White-eye. The race *mbuluensis* is already recorded from Ol Doinyo Orok, and from the nearby Longido (Britton 1980).

Oriole Finch. At least two pairs, one accompanied by an immature male, frequented the riverbank near the campsite. They waded in the shallow water passing over the rocks and appeared to feed there, perhaps on algae. The very green upperparts and flanks, contrasting with brighter yellow bordering the black of the neck and chest, indicated that they were of the race *kilimensis* rather than the yellower, western *elgonensis*. This is the first Kenyan record of *kilimensis*, which is known from the northern and eastern Tanzanian highlands (Britton 1980).

DISCUSSION

Some avifaunal impoverishment is expected in a small forest island such as Ol Doinyo Orok, and this was reflected in the small number of species recorded - 47 in all. Of course, this number would rise with more time spent in the forest. The presence of Stripe-cheeked Greenbul and Oriole Finch of the race *kilimensis* indicates a stronger affinity with the forests of northern Tanzania than with the more distant highland block of central Kenya.

The discovery of Pale-breasted Illadopsis at Ol Doinyo Orok is most surprising; it is noteworthy, however, that this is the only member of the genus to extend east of the central Kenya highlands. Its present-day distribution is disjunct, with nominate *rufipennis* not recorded east of Kakamega Forest, and *distans* hitherto unknown west of the Ngurus. Presumably its distribution was once more extensive; the Ol Doinyo Orok population might be a relict of a larger range. Alternatively it might have been established by wanderers from the East Usambaras. In either case, its apparent absence from Mts Meru and Kilimanjaro and the Pares is odd.

This interesting forest requires more study, in particular the judicious collection of specimens. Its condition should also be monitored. Although we saw few signs of serious disturbance, its small size, apparent fragility, and proximity to Namanga township must cause some anxiety. Destruction on a large scale would be of more than scientific importance, as Namanga depends for its water supply on the preservation of this catchment area.

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MONTANE BIRDS OF THE BWINDI (IMPENETRABLE) FOREST

L.A. Bennun

The Bwindi (formerly Impenetrable) Forest in Kigezi, southwest Uganda, is notable both for its rich avifauna, including many of the East Zaire montane endemics, and its great altitudinal span (Keith et al. 1969, Prigogine 1985). However, the forest has been relatively little studied by ornithologists, possibly owing to its rugged topography (particularly severe in the higher southern section). An account of the avifauna based on the results of several collecting expeditions is given in Keith et al. (1969), with some additional records in Friedmann & Williams (1970) and Britton (1980).

In August-September 1984 I spent four weeks observing and mist-netting birds in a section of the forest as a member of the Cambridge Bwindi Forest Study Group. The more interesting altitudinal records are presented and discussed here, and notes are given on the behaviour of some little-known species. Details of procedures and other findings of the study may be found elsewhere (Clarke & Bennun, in prep.) as may descriptions of topography and vegetation (Hamilton 1969, Keith et al. 1969). Observations were made at altitudes between 2100m and 2440m, and in all forest types described by Hamilton (1969); however, his ridgetop, hillslope, hilltop and gully forest are referred to collectively as 'hillside forest' here.

Poicephalus gulielmi Red-fronted Parrot

Recorded at 2200m. Keith et al. (1969) do not list this species; Britton (1980) records it "at 2500-2700m in the Impenetrable Forest", surely an error as the forest barely reaches 2500m.

Apaloderma narina brachyurum Narina's Trogon

Britton (1980) gives 2150m as the maximum altitude for *brachyurum*. Here it was recorded to 2420m, indicating a substantial altitudinal overlap with the Bar-tailed Trogon *A. vittatum* (known from 1550-2500m in Bwindi). This is surprising as the two species are usually altitudinally segregated, with *vittatum* at higher levels. In another Albertine Rift forest, the Itombwe Mts, *brachyurum* is confined to the lowlands (under 1500m); nominate *narina* occurs above 2300m and *vittatum* at altitudes in between (Prigogine 1980).

Mesopicos elliotii Elliot's Woodpecker

This uncommon woodpecker was recorded at 2320m (Britton (1980) records it at "medium elevations"). The Olive Woodpecker *M. griseocephalus* occurs at the same altitude in Bwindi, while in Itombwe the two are completely separated altitudinally, *elliotii* being found only below 2000m (Prigogine 1980).

Dicrurus adsimilis coracina Drongo

Several records from tall valley forest at 2130m, considerably higher than the 1700m maximum recorded by Britton (1980) for this race.

Parus funereus Dusky Tit

Single birds recorded twice in valley forest at 2130m; Britton (1980) records this species up to 1700m.

Dryocichlodes poliopterus Grey-winged Ground Robin

A pair with dependent juvenile were resident in valley forest at 2130m; Britton (1980) records it to 2000m.

Apalis binotata, *A. jacksoni*, *A. porphyrolaema*, *A. ruwenzori* Masked, Black-throated, Chestnut-throated and Collared Apalises.

The ecological relationship between these species deserves study. All four were common, up to three being seen in the same bird party. Superficial observation suggests that they are ecologically separated by feeding habits and habitat preferences. *A. ruwenzori* fed only low in the undergrowth, *binotata* usually in the upper undergrowth, the lower canopy or dense hanging vines, while *jacksoni* was virtually always in the canopy. *A. porphyrolaema* was most flexible in feeding position, descending even to the ground, but most often foraging in the canopy. It and *jacksoni* appeared to feed mainly by sally-gleaning, the other two mainly by perch-gleaning. All but one record of *porphyrolaema* were from hillside forest; *jacksoni* showed an equally strong preference for valley forest, and these two species were never seen together.

Bathmocercus cerviniventris Black-faced Rufous Warbler

Recorded in valley forest to 2130m. Britton (1980) gives 1800m as the maximum altitude reached in Uganda.

Bradypterus graueri Grauer's Rush Warbler

Some behavioural observations of this threatened species supplement those given by Vande weghe (1983). The birds were abundant in parts of Mubwindi Swamp. They appeared only briefly above the sedge, dropping suddenly after a low fluttering flight of a few metres during which a short rapid rattling trill was often uttered. The "soft, melodious and unobtrusive" song described by Vande weghe was not heard; calls consisted of the same rattling trill, about 1s in duration, preceded or followed by loud *kwik* or *chup* notes, e.g. *kwik-kwik-trrrr*, *kwik-kwik-trrrr* ... Birds were also heard to duet, one calling quickly *kwik-kwik-kwik* ... while the other gave excited chattering cries.

A bird displaying near the top of a sedge stem fluttered its wings above its back very fast, calling rapidly and without pause *chup-chup-chup-trrrr*, *chup-chup-chup-trrrr* ... The display ceased abruptly after 90s as another bird flew in to the sedge some 2m away; the displaying warbler flew towards it at once and both vanished from view.

Melaenornis ardesiaca Yellow-eyed Black Flycatcher

The commonest call of this East Zaire montane endemic was a high thin *sree-sree*, often followed by a harsh *tjak-tjak*. A pair moving together high in the trees made a variety of squeaky sounds, including a loud rising *skwee-SKWEe*. A displaying bird made repeated short stuttering flights at about 3m from the ground, waving its tail from side to side and calling sharply *tchut-tchut-tchut* ... as it flew.

Batis diops Rwenzori Batis

The most frequent and distinctive call of these batisses is not described by Mackworth-Praed & Grant (1973) or Lippens & Wille (1976); it was a low ventriloqual whistle, *theeo0000...theeo0000...*, a series of long monotonous eerie notes reminiscent of the call of the Grey-headed Bush Shrike *Malaconotus blanchoti*.

Trochocercus albiventris White-bellied Crested Flycatcher

One captured at 2440m, considerably above the 2150m given in Britton (1980). The sympatry of this species with the White-tailed Crested Flycatcher *T. albonotatus* and the Dusky Crested Flycatcher *T. nigromitratus* is notable. In this study *albonotatus* was found only above 2380m, but it has been recorded down to 2150m; *nigromitratus* was seen at 2130m and is known to 2150m (Britton 1980). While *nigromitratus* and *albonotatus* may be altitudinally segregated, *albiventris* appears to overlap altitudinally with the entire range of both. In Itombwe the three are much better separated; *albiventris* occurs at intermediate altitudes, showing some vertical but no horizontal overlap with *nigromitratus* (occurring below 1500m) and *albonotatus* (occurring above 1800m: Prigogine 1980).

Dryoscopus gambensis Northern Puffback

Recorded to 2380m; Britton (1980) limits it to 2200m.

Nectarinia ludovicensis Montane Double-collared Sunbird

A number of sightings confirm the supposition of Britton (1980) that this species might be commoner than the few previous records (at 2500m) suggested. Although in Zaire and Rwanda it is usually found above 2500m (Britton 1980) it was recorded here at 2170m, 2200m, 2230m, 2290m, 2300m (twice), and 2440m, at the edge of hillside forest and in clearings. The Northern Double-collared Sunbird *N. preussi* appeared to be rarer at these altitudes, only once being seen above 2100m; it is known, though, from 1200-2400m (Keith et al. 1969) indicating a substantial altitudinal overlap with the closely related *ludovicensis*.

Nectarinia verticalis Green-headed Sunbird

Only one record, at 2230m; its apparent scarcity in the montane forest may be due to the presence of the very similar Blue-headed Sunbird *N. alinae*, which is abundant. In Itombwe the two have a little vertical overlap below 1500m (Prigogine 1980).

Malimbus rubricollis Red-headed Malimbe

Regularly seen in valley forest at 2130m, a considerable altitudinal extension from the 1700m limit given in Britton (1980).

Ploceus alienus Strange Weaver

Lippens & Wille (1976) describe the voice as an occasional low twittering; in Bwindi, however, these birds were quite vocal. The contact call was an intermittent *chak...chak, chak*, given faster when the birds were alarmed. The song was a sweet, slurry little *sisisi-sweesi-si*, *sisweesi-si* or a shorter light *see-swoo-see-see*. They also often gave a plaintive descending whistle *tweetweetweetoooo*.

New Species Records for the Montane Forest

Keith et al. (1969) and Keith (1980) listed those forest birds in Bwindi known both from lowland forest (1200m and under) and montane forest (2100m and above). However, the two lists are not identical. Three species from the 23 listed in 1969 are omitted from the later list: these are the Cinnamon-chested Bee-eater *Merops oreobates*, *Apalis jacksoni* and *Nectarinia preussi*. All fulfil the requirements for inclusion according to Table 1 in Keith et al. (1969). Four extra species are added to the list in Keith (1980), presumably on the basis of additional records although this is not stated. Thus 27 species should have been listed in all.

To these may be added five more from records above 2100m obtained in this study, namely the Black-and-White Casqued Hornbill *Bycanistes subcylindricus*, Cameroon Sombre Greenbul *Andropadus curvirostris*, *Dryocichloides poliopterus*, *Parus funereus* and *Malimbus rubricollis*. The total list thus includes 32 (18 per cent) of the 175 forest birds recognized by Keith (1980).

Four species previously known only at 'intermediate' levels in Bwindi (1500-1800m) were recorded here in montane forest. These are Shelley's Greenbul *Andropadus masukuensis*, Placid Greenbul *Phyllastrephus placidus*, *Dicrurus adsimilis* and *Bathmocercus cerviniiventris*. All but *A. masukuensis* would also be expected to occur in lowland forest (Britton 1980) and their apparent absence from these altitudes in Bwindi is probably due merely to incomplete knowledge of the avifauna.

DISCUSSION

Bwindi is remarkable for the presence of forest extending in a continuum from lowland to montane regions. A sizeable proportion of the forest birds (at least 18 per cent, and probably more) appear to exploit this entire range. This study has also shown that, for a number of species or races, the altitudes attained in Bwindi are higher than those achieved elsewhere in East Africa. Some birds which are known elsewhere only from 'transition' forest, up to 1700-1800m, are recorded in Bwindi from montane forest above 2100m. These records suggest that, contrary to the view of Keith (1980), certain species have taken advantage of the continuous forest to penetrate to altitudes where they do not usually occur.

Altitudinal distribution in the forests of the Itombwe Mts, which have an even greater vertical span than Bwindi, has been documented by Prigogine (1980). There, a number of lowland species are considered to be limited to forest under 1500m by the presence at that altitude of one of a series of floristic discontinuities; these species include *Malimbus rubricollis* and *Dicrurus adsimilis coracinus*. In Bwindi the forest shows a floristic continuum (Hamilton 1969, 1975) and both these species reach the montane area. It is notable, too, that pairs or triplets of species in the genera *Apaloderma*, *Mesopicos*, *Trochocercus* and *Nectarinia* show much more extensive altitudinal overlap in Bwindi than they do in Itombwe, where they are presumed to be separated largely through competition. The

factors determining vertical distribution are complex and varied (Prigogine 1980) and much further study will be required to establish the reasons for these interesting differences.

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VOCAL VARIATIONS IN TWO FOREST APALISES OF EASTERN
AFRICA, *APALIS (PORPHYROLAEMA) CHAPINI*
AND *A. MELANOCEPHALA*

Françoise Dowsett-Lemaire

Apalis is an important genus of forest warblers in Africa whose species limits are often uncertain (Hall & Moreau 1970). The study of vocalizations may help to clarify relationships which are unclear from morphology alone (e.g. Chappuis 1980, Dowsett & Dowsett-Lemaire 1980). For example it was shown that the two forms *alticola* and *cinerea* of the Grey *Apalis* *Apalis cinerea* - given specific status by Hall & Moreau (1970) - had similar voices and reacted strongly to playback of each other's song in Kenya and Zambia. These were therefore considered conspecific, a move which also made morphological sense as a race with intermediate plumage characters was discovered in Zaire (Dowsett & Dowsett-Lemaire 1980).

On the other hand, where songs are found to differ, care needs to be taken to distinguish dialectal variants - which can be clinal over a large area. In the two species examined here, patterns of vocal variation appear to be of taxonomic relevance in one (Chestnut-headed *Apalis* *A. chapini*), but not in the other (Black-headed *Apalis* *A. melanocephala*) where they are probably clinal. This paper describes the voice of these warblers from the material available so far, and stresses the need for further research and tape recordings, particularly from south-central Tanzania.

TAPE RECORDINGS AND ANALYSIS

My tape recordings in Malawi were obtained with a Sony TC-150 cassette recorder, modified by Mineroff Electronics Inc. (e.g. with increased sensitivity to high frequencies), and a Beyer M69 dynamic microphone fitted into a Sony parabolic reflector. R. Stjernstedt recorded in Tanzania with a Uher 4000-L and sent me copies on Uher tape or cassette (which made no difference for the spectrographic analysis). T. Harris's material from eastern Zimbabwe was a copy-cassette. I have also used recordings published by G.S. Keith (in Keith & Gunn 1971).

All material was analysed with a Kay Electric Sonagraph 7029A at Liège University, using the wide-band setting.

RESULTS

The voice and status of the Chestnut-headed Apalis A. chapini (including strausae)

Dowsett & Dowsett-Lemaire (1980) separated the races *chapini* and *strausae* of the Chestnut-throated *Apalis* *A. porphyrolaema* as a species, *A. chapini*, distinct in its voice as well as facial colouration from nominate *porphyrolaema*. The distribution of these three forms in East Africa is given by Britton (1980); *strausae* is

the most southerly and extends from SW Tanzania to the highlands of northern and central Malawi and adjacent NE Zambia. The races *strausae* and *chapini* are much closer to each other morphologically than to *porphyrolaema* (both having a rufous face, whereas it is grey in the latter); they were also allied on voice, as R. Stjernstedt (*in litt*) considered the song of *chapini* from the Uluguru Mountains to be identical to that of *strausae* from Rungwe. I have recently analysed a tape from the Ulugurus which shows that there are in fact some differences in voice; on the other hand, more material from SW Tanzania and Malawi demonstrates a consistency of pattern in the songs of *strausae*, with some dialectal variations.

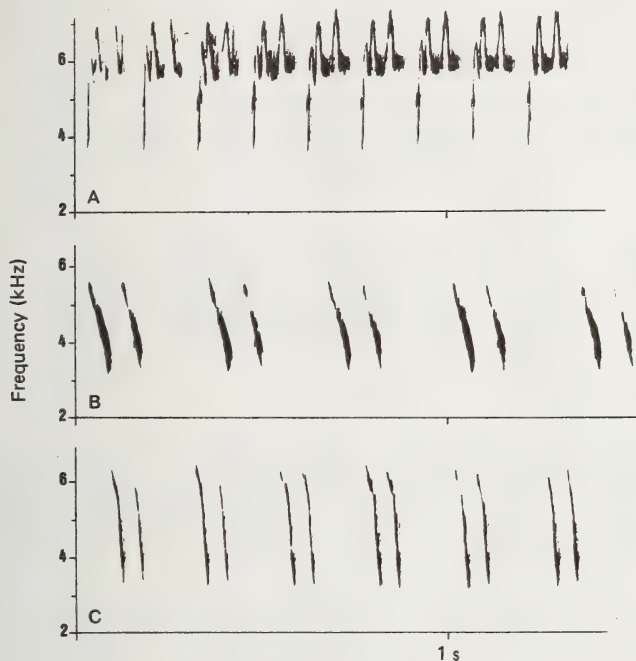


Fig. 1. Sonagrams illustrating the songs of: (A) *Apalis c. chapini* (Ulugurus, Tanzania, R. Stjernstedt); (B) and (C) *Apalis chapini strausae* (both from Rungwe Distr., R. Stjernstedt)

The typical song of male *A. chapini strausae* is a monotonous *tje-tje*, *tje-tje*... consisting of two descending strokes (or double strokes) repeated at regular intervals for, usually 1-3 s (Figs. 1B-C and 2A, C-F). Females join in with a few weak, high-pitched *pee-pee* towards the beginning of a male phrase (notes of females are shown in Fig. 2B). Songs have been heard in all months of the year in Malawi, but are more frequent in August-January. Study of territorial birds on the Nyika showed that individual males had at least two song-types:

one with two single strokes repeated as a unit (e.g. Fig. 2A, C and E), the other - which sounded faster-delivered - consisting of strokes doubled in a 'W' and repeated in units of twos (Fig. 2D and F). The two song-types illustrated in Fig. 2E and D come from the same individual bird.

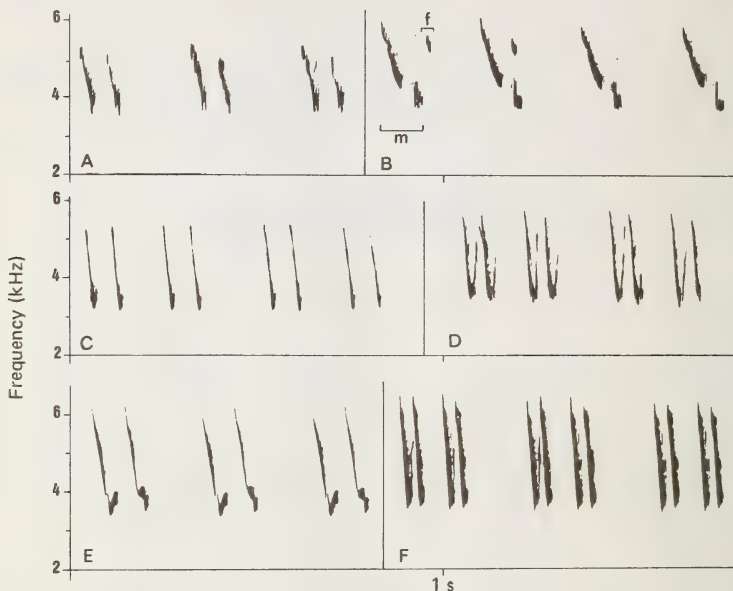


Fig. 2. Sonagrams illustrating the songs of *Apalis chapini strausae* from localities in Malawi: (A) and (B) Wilindi and Mugesse Forests, Misuku Hills; (C) to (E) Nyika Plateau; (F) South Viphya Plateau. All show male songs, except (B) where the part of the sexes is illustrated by m (male) and f (female)

Except for an unusual variant in the Misuku Hills (in the extreme north of Malawi), this pattern of single or double descending strokes was found throughout the range of *strausae*. Thus one song-type from Rungwe Mt (Fig. 1C) is close to one from the Nyika (Fig. 2C), and the other (Fig. 1B) approaches one from the intervening Wilindi Forest, Misuku Hills (Fig. 2A). Curiously, one population confined to Mugesse Forest (8 km from Wilindi Forest in the Misukus) was never heard to produce the typical song, but only a repetition of a descending note broken into two elements, which sounded like *tje-u, tje-u ...* (Fig. 2B).

R. Stjernstedt recorded two song-types of nominate *chapini* in the Ulugurus, one of which is shown in Fig. 1A: this sounds like a rapid, high-pitched *kif-kif-kif-kif-kif...* and cannot be matched by any song-type of *strausae*. However, there are similarities in structure, as each stroke is prolonged by a 'W' that recalls the notes in Fig. 2D. But the 'W' is restricted to very high frequencies in the Uluguru bird, hence the special timbre. Another song (not

reproduced here as much echo obliterates the details of structure) appears lower-pitched (*puipui**puipui*...) with a main element at 4 kHz flanked with ascending and descending strokes.

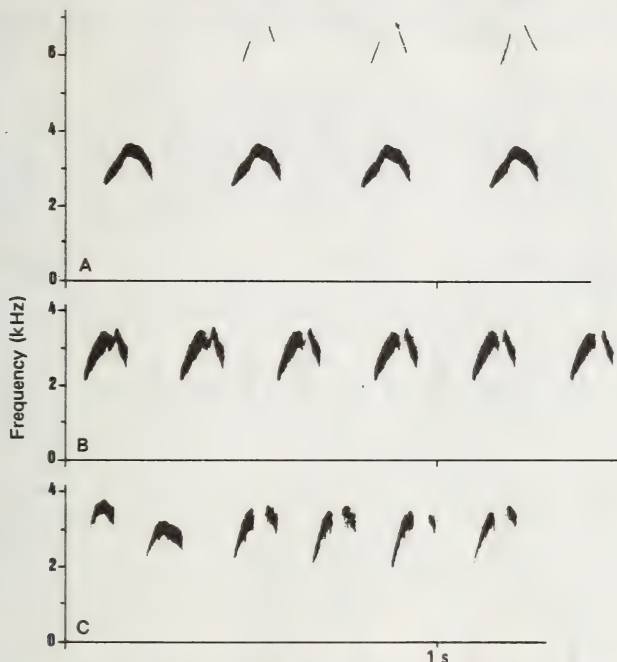


Fig. 3. Sonagrams illustrating the songs of *Apalis melanocephala* from: (A) Sokoke, Kenya (G.S. Keith in Keith & Gunn 1971); (B) and (C) Amani, Tanzania (R. Stjernstedt)

The voice of the Black-headed Apalis A. melanocephala

The song of the nominate *melanocephala* from coastal Kenya (in Keith & Gunn 1971) is a monotonous repetition of loud *wiu-wiu-wiu-wiu* (Fig. 3A: a faint harmonic overtone appears in the sonagrams and may not be real). The bird answering with the same song in the background may be the mate, or just as likely a countersinging territorial neighbour. According to S.N. Stuart (*in litt*), the birds from the Pugu Hills and the Usambara Mts (where two races are involved, nominate and *moschi*) sound similar. Tapes provided by R. Stjernstedt from Amani, East Usambaras, confirm this (Fig. 3B, C); but sometimes the monotony of the repetitive phrase is broken up by one or two introductory notes on a different pitch. One such song is illustrated in Fig. 3C and can be rendered as *ti-hue, wie-wie-wie-wie*. Moreover, the main notes differ slightly in structure, being broken up into two elements.

In southern Malawi, *A. melanocephala* is common in the understorey and canopy of a wide range of evergreen forest, from lowland at

600-700 m to submontane forest up to 1800-1900 m. White (1962) supported the recognition of two races (*lightoni* and *fuliginosa*) on neighbouring hills in this area, and Benson & Benson (1977) similarly accept two (*adjacens* and *fuliginosa*), although geographical considerations might suggest there is unlikely to be more than one.

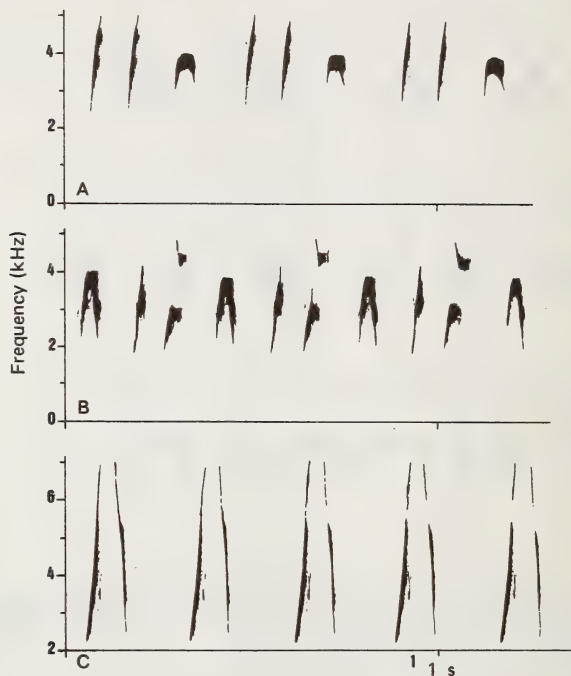


Fig. 4. Sonagrams illustrating the songs of *Apalis melanocephala* from: (A) and (B) Mulanje and Mangochi Mts, Malawi; (C) eastern Zimbabwe (T. Harris)

The birds are noisy all year round with full songs commonest in August-November. Stereotyped songs were heard only in isolated individuals and there was no indication of a female participation. The most frequent motifs consist of three clear, piping notes repeated in series of a few seconds without a break. An example from Mulanje Mt is shown in Fig. 4A (*ti-ti-pu, ti-ti-pu...*) and another song-type from Mangochi Mt in Fig. 4B (*pi-ti-ti, pi-ti-ti...*) with the accent on the first note. Motifs of four notes were also heard (rarely) but not recorded; and I twice heard a song based on the repetition of a single piping note (once on Zomba Mt, once on Mulanje). Malawi birds were strongly attracted to the playback of tapes of local songs (often both members of a pair, or a small party came towards the recorder, calling and hopping about) but never showed an interest in the repetitive song from coastal Kenya

(tried on Thyolo and Soche Mts). The calls are varied and include series of piping *pee-pee-pee-pee* or soft trills (often preceding a bout of singing), a rolled *prru* and alarm notes *puit*. These vocalizations are uttered by two or more birds in a territory, i.e. presumably by both sexes.

From Mwanihana Forest in the Uzungwa Mts of Tanzania, S.N. Stuart (*in litt*) described the song as quite different and more variable than the monotonous *wiu-wiu-wiu-wiu* series uttered by coastal birds: songs were either di- or trisyllabic, some markedly accentuated on the first note. These seem likely to approach the song-types from Malawi.

The southernmost population of *A. melanocephala* occurs in lowland forest in Mozambique and eastern Zimbabwe, south of the Zambezi River. On morphological characters these birds (*lightoni*) have been allied to those of southern Malawi except from Thyolo and Mulanje (White 1962). The song has recently been recorded in Zimbabwe by T. Harris and is a striking, loud repetition of metallic *piupiupiupi* notes (Fig. 4C). This rather unmusical timbre, produced by the high frequency range of each note, was never heard in Malawi. On the other hand, the monotonous repetitions recall the song-types of the nominate race in coastal East Africa; moreover, the peaked notes can be seen as extensions into higher frequencies (4-7 kHz) of the equivalent notes in Fig. 3A-C. (Incidentally, the sonagram published by Maclean (1985) is taken from the Sokoke tape of G.S. Keith and not from southern African birds.)

DISCUSSION

In the *A. porphyrolaema* superspecies, marked vocal differences appear to match morphological variations (at species or subspecies level). The more extensive material obtained in recent years confirms that the voice of *A. chapini* (including *strausae*) has nothing in common with the loud, ringing trills of *A. porphyrolaema* (recordings from the Kenya highlands are illustrated in Dowsett & Dowsett-Lemaire 1980, p.173). However, more material is needed particularly from the Uzungwa Mts in Tanzania (at the western limit of nominate *chapini*), to compare the song repertoires of *strausae* and *chapini sensu strictu*. Given the amount of intra- and inter-population variation found in *strausae* songs, and some similarities of structure with the *chapini* songs recorded so far, I would for the moment keep them in the same species. Similar investigation of vocalizations will be needed before the contentious status of *A. kaboboensis* (sometimes allied to *porphyrolaema*) can be settled (Collar & Stuart 1985).

Playback experiments are often useful in this sort of study, but must be tried with caution in this group. Although I found that *A. porphyrolaema* in Kenya reacted strongly to playback of local tapes - by moving towards the source of sound and answering back - similar experiments rarely worked in Malawi with *strausae*. Indeed,

the situation is further complicated by the fact that Chestnut-headed Apalises interact aggressively and vocally with sympatric Bar-throated Apalises *A. thoracica* and *A. cinerea*, whose voices are very different (Dowsett-Lemaire 1983: 362-3, 371).

In *A. melanocephala*, tape-recorded material from coastal Kenya, eastern Tanzania, southern Malawi and eastern Zimbabwe show a remarkable range of vocalizations, with geographical variations which do not fit the subspecific divisions of White (1962). Rather, this material, added to S.N. Stuart's description of the complex songs of the Uzungwa birds from central Tanzania, suggests there is a clinal increase in song complexity from coastal to inland populations. More recordings from most of Tanzania are needed to confirm this.

ACKNOWLEDGEMENTS

My research on forest birds in Malawi was supported financially by a grant from the Belgian National Fund (F.N.R.S.) in 1979-81, a lectureship from Liège University in 1981-83, and the National Geographic Society, for which I am grateful. I thank Prof. J-C Ruwet for the use of Sonograph facilities at the Laboratory of Ethology, University of Liège. R. Stjernstedt and T. Harris kindly provided copies of their tape recordings for analysis.

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A NEW BIRD FOR EAST AFRICA AND EXTENSIONS OF RANGE OF SOME SPECIES FOR SOUTHWEST TANZANIA

D.C. Moyer and R. Stjernstedt

These records are from a visit to the Tatanda one-degree square (8-9 S, 31-32 E) in southwestern Tanzania made between 15 April and 1 May 1985. During this time trips were made to Mumba, Kitungulu, Nkutwe and Nsangu from our base at Tatanda. This area of Tanzania has been poorly covered by ornithologists in the past and in recent years a number of species new to East Africa and extensions of range have been recorded here (see Stjernstedt & Moyer 1982). DCM visited Mumba from 15-18 April and both of us visited Kitungulu from 25-28 April, Nkutwe on 29 April and Nsangu from 30 April to 1 May. Mumba is located about 40 km southeast of Sumbawanga on the road to Tunduma, the habitat there is montane grassland and the elevation is about 2100m. Kitungulu lies at an elevation of about 1400m and is located 25km west of Tatanda. This locality was visited by Fromm in 1909 and by Loveridge in 1930 (see Kothe 1911 and Bangs & Loveridge 1933). Near where the village of Kitungulu once stood, two streams, the Kitungulu and the Kamukolwe, join to form the Kawa. Lining the banks of these streams is riverine forest of a type commonly encountered in Zambia where it is known as *mushitu*. At one point the forest widens out to about 100m to form a small patch. We put up several mist-nets in this spot during our stay. The area surrounding Kitungulu is miombo woodland in very good condition. Nkutwe is a small patch of *mushitu* growing around a hot spring. It is located 2km east of Tatanda and has an elevation of about 1500m. About 15km north of Mumba on the lip of the Rukwa escarpment is a small patch of montane forest called Nsangu, which lies at about 2200m. This forest is being cut down by the people from the nearby village of Msanda for lumber, charcoal and firewood which they sell in Sumbawanga. Nsangu is similar to Mbisi forest which is located 20km to the northwest and many of the same bird species are found here. Also worthy of note is a troop of Western Red Colobus *Colobus badius tephrosceles* living in the forest. This subspecies is in increasing danger on the Ufipa Plateau as the remaining patches of forest are cut down (see Rodgers 1981).

Mist-nets were put up in all of the localities visited during our stay and data were kept from all birds examined. We collected one species new to East Africa (●); we identified a second new species, and probably also a third, on the basis of voice and these are marked 'o' in the list below.

Caprimulgus poliocephalus guttifer Montane Nightjar

This species was heard and tape recorded on the grassland surrounding Nsangu Forest. It was quite common and up to four birds were heard calling at one time. These records are a considerable westward extension of the range of this species as given in Britton (1980).

o Mirafra angolensis Angola Lark

DCM saw and heard a lark, probably of this species, on two occasions at Mumba. Both times a bird was seen at a distance of about 150m performing a distinctive song-flight. All efforts to locate the bird after it had settled into the tall grass failed and a good view was not obtained. The song-flight began with a short, steep flight to a height of about 20m then, with wings held overhead, the bird glided back to the ground, all the while giving a continuous liquid buzzing call. This call was very similar to the description by Aspinwall (1979) of the call of *M. angolensis* in the northwestern province of Zambia. It also sounded almost exactly like a recording made by RS of this species in western Zambia. The inclusion of this species in the East African avifauna must await full substantiation.

Alcippe abyssinica abyssinica African Hill Babbler

One bird was caught at Nsangu and it was heard calling quite often in the forest undergrowth.

Andropadus latirostris australis Yellow-whiskered Greenbul

A common and noisy bird at Nsangu where two were caught.

Andropadus virens zombensis Little Greenbul

This was a very common species at Kitungulu in the *mushitu*, eleven being caught; it was not found at Nkutwe. Britton (1980) records this species from no closer than Tukuyu; it is, however, quite common in *mushitu* around Mbala in northern Zambia.

Chlorocichla flavicollis flavigula Yellow-throated Leaflove

Two birds were caught at Kitungulu where it did not appear to be very common.

Phyllastrephus cabanisi Cabanis' Greenbul

A common species at Kitungulu and Nkutwe. Nine were caught at Kitungulu.

Phyllastrephus flavostriatus alfredi Yellow-streaked Greenbul

This species is common at Nsangu where three were caught.

Cercotrichas barbata barbata Bearded Scrub Robin

Heard on several occasions in rich miombo near Kitungulu. This species was found by Moreau's collector near this area (Moreau 1943).

Alethe poliocephala ufipae Brown-chested Alethe

Three birds were caught at Nsangu, in each case they were the sole bird in the net on the first visit at early dawn. The birds were silent in the hand but snapped their bills. The gape was pinkish grey, bill black, eyes chestnut-brown and feet pale pink.

Dryocichloides bocagei chapini Bocage's Ground Robin

This species was heard calling several times at Kitungulu and a female was collected. This is the first specimen of this race from Tanzania.

Pogonocichla stellata orientalis White-starred Forest Robin

A common bird at Nsangu, where one was caught.

Apalis alticola Brown-headed Apalis

Recorded from Nsangu, Kitungulu and Nkutwe. Britton (1980) gives its habitat as highland forest but at Kitungulu and Nkutwe it occurs in *mushitu*.

Bradypterus barratti ufipae Evergreen Forest Warbler

Common at Kitungulu and Nkutwe in *mushitu* and in montane forest at Nsangu.

Cisticola fulvicapilla angusticauda Tabora Cisticola

This species was seen in tall miombo at Kitungulu. The closest it had previously been recorded was from Katavi Plain.

Cisticola pipiens congo Chirping Cisticola

This species was heard calling in the reeds along the Mumba River by DCM who is familiar with it from Mbala, 70 km to the south in Zambia. One bird was caught but escaped before being measured and photographed. The addition of this species to the East African list must await full substantiation.

● *Phylloscopus laurae eustacei* Laura's Warbler

A male of this species was caught in the forest at Kitungulu and a specimen was made. The occurrence of *P. laurae* here is not surprising as it is quite common near Mbala, 70 km to the southeast, in similar habitat.

Muscicapa adusta fuelleborni Dusky Flycatcher

A very common bird at Nsangu in forest clearings where three were caught.

Macronyx ameliae altanus Rosy-breasted Longclaw

Two birds were seen at Mumba on montane grassland and one at Lake Sundu on a wet dambo. Britton (1980) records this species from no nearer than the Malawi border some 150-200 km southeast of Mumba; however, its occurrence here was predicted.

Malaconotus multicolor nigrifrons Many-coloured Bush Shrike

This species was seen once and heard calling at Nsangu. A recording was made of its call.

Anomalospiza imberbis Parasitic Weaver

One was seen at Tatanda by RS, this is only the second record from this area. Britton (1980) records it from no closer than Iringa.

Mandingoa nitidula chubbi Green-backed Twinspot

One bird, a male, was caught on the forest edge at Kitungulu.

Serinus mennelli Black-eared Seed-eater

A very common bird in miombo woodland around Kitungulu and elsewhere in the square. Britton (1980) records it from no nearer than Songea so these records represent a considerable extension of known range.

ACKNOWLEDGEMENT

We are grateful to Dr Simon Stuart for commenting on a first draft of this note.

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GAZETTEER

Katavi Plain	06.45 S	31.05 E	Msanda	08.04 S	31.51 E
Kitungulu	08.29 S	31.17 E	Mumba	08.06 S	31.50 E
Sundu, Lake	08.30 S	31.40 E	Nkutwe	08.29 S	31.31 E
Mbala	08.50 S	31.42 E	Nsangu	08.03 S	31.53 E
Mbisi	07.54 S	31.42 E	Sumbawanga	07.58 S	31.37 E
Tatanda	08.29 S	31.30 E			

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MOULT SCHEDULES OF SOME PYCNONOTIDS AND PLOCEIDS IN COASTAL KENYA

P.L. Britton and H.A. Britton

There are few published accounts of moult schedules of Afrotropical birds in East Africa, though the stage of moult of many thousands has been noted as a routine feature of ringing studies (Backhurst 1974). Molt data are included by Okia (1976) and Stuart & Hutton (1977), for forest birds in Uganda and Tanzania, and many more are available from various sites in Kenya. Few have been published (Britton 1972, 1978), but anticipated papers will include data from several forests (A.W. Diamond, R.J. Dowsett, M. Kelsey and C.F. Mann in prep.). Both pycnonotids in this paper featured prominently in a recent study in Mozambique and Malawi (Hanmer 1978), while Okia (1976) included data on other pycnonotids. Published data from Kenya include the Common Bulbul *Pycnonotus barbatus* (Britton 1972) and various ploceids (Britton 1978). Data from higher latitudes are often very synchronized (Hanmer 1978), while those for papyrus birds on the equator in western Kenya (Britton 1978) exhibit clear patterns. Britton (1972) concluded that the timing and duration of moult of the Common Bulbul conform to no obvious pattern in western Kenya, nor do available data for other pycnonotids from the same climatic zone in Uganda (Okia 1976). The data presented here lack obvious patterns, and a substantial analysis of seasonality, interrupted moult or other features is inappropriate. Interested readers are referred to the extensive bibliography and discussion in Britton (1978).

During 1974-78, whilst resident in Mombasa, we netted birds regularly in modified and degraded thicket on coral rag at Bamburi (4.00 S, 39.43 E). Introduced *Lantana camara* was dominant except in natural glades where grasses and palms featured prominently. Nets were usually set for 3 or 4 hours from dawn, using the same sites on each visit. The primary moult of each bird handled was recorded using the methods of Evans (1966). Birds with active or interrupted moult were given a score from 1 to 49. All such data for the Common Bulbul, Zanzibar Sombre Greenbul *Andropadus importunus*, Golden Palm Weaver *Ploceus bojeri*, Spectacled Weaver *P. ocularis*, Black-necked Weaver *P. nigricollis* and Zanzibar Red Bishop *Euplectes nigroventris* are summarized in Figs. 1-3. Data for other species netted involve still smaller samples and are excluded. Recaptured birds in moult on one or more occasions have moult scores joined in the figures. Birds exhibiting active moult only once, or with interrupted moult each time, are shown with broken lines. The gradient of these is likely to be artificially low, though several such lines are at least as steep as many continuous lines. This, together with the lengthy (mean 326 days) duration of primary moult derived from all thirty recaptures, suggests that many in active moult had in fact interrupted their moult for part of the period between captures. Most pycnonotid data from Africa indicate that active primary moult lasts for 3-5 months and follows breeding (Hanmer 1978).

Seasonality is very apparent in coastal Kenya, with most rain during April-June, sometimes protracted into July, August or November (Brown & Britton 1979). Rainfall is rather erratic and variable, and such differences from year to year are likely to obscure patterns when data from five years are combined (see Britton 1978). Breeding season data from coastal Kenya for these six species in Brown & Britton (1979) show that most laying is during and immediately after the wet April-June period, with 97 per cent of clutches in April-October. Ignoring atypical August data for the Zanzibar Red Bishop, there is a peak in May (27 per cent of clutches).

The purpose of this paper is to place these data on record for future analysis or comparison by other workers. In particular, a forthcoming review of moult patterns in forest birds by R.J. Dowsett will include miscellaneous data from forests in coastal Kenya (M. Kelsey *in litt.*).

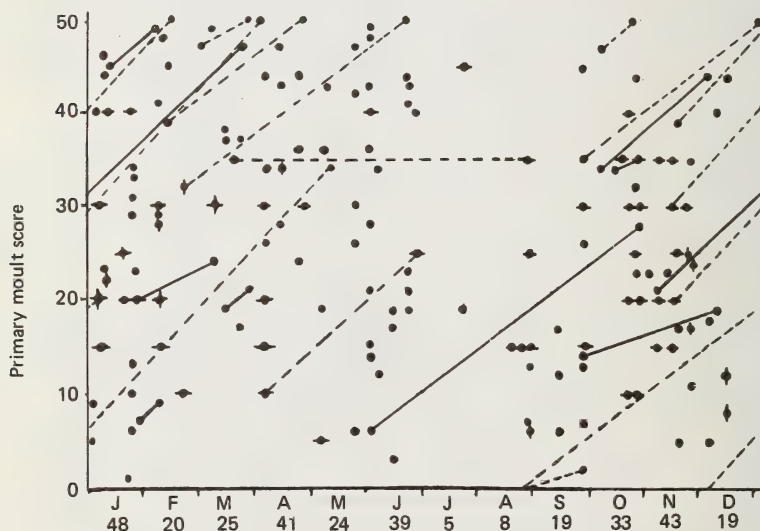


Fig. 1. Primary moult scores of *Andropadus importunus* by months. Birds exhibiting interrupted moult (-) and birds aged as immature (l) are distinguished. Joined lines link recaptured birds (see text)

ACKNOWLEDGEMENTS

We are very grateful to Bamburi Cement Company and their farm manager, René Haller, for permission to net birds on their land.

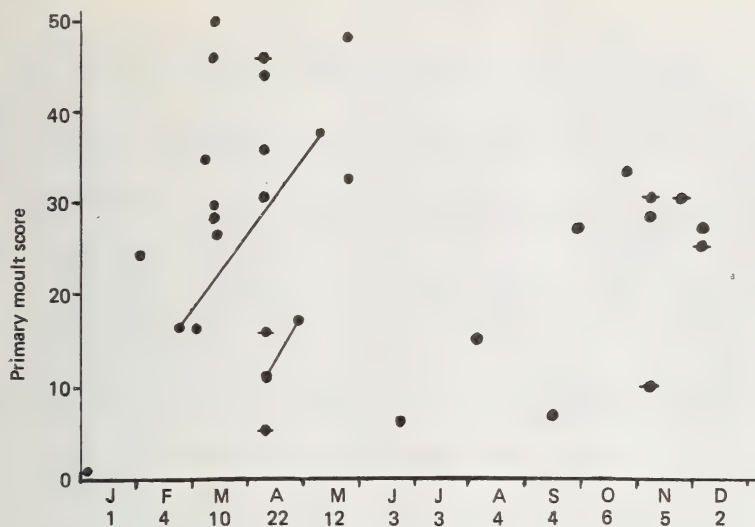


Fig. 2. Primary moult scores of *Pycnonotus barbatus* by months. Conventions as in Fig. 1

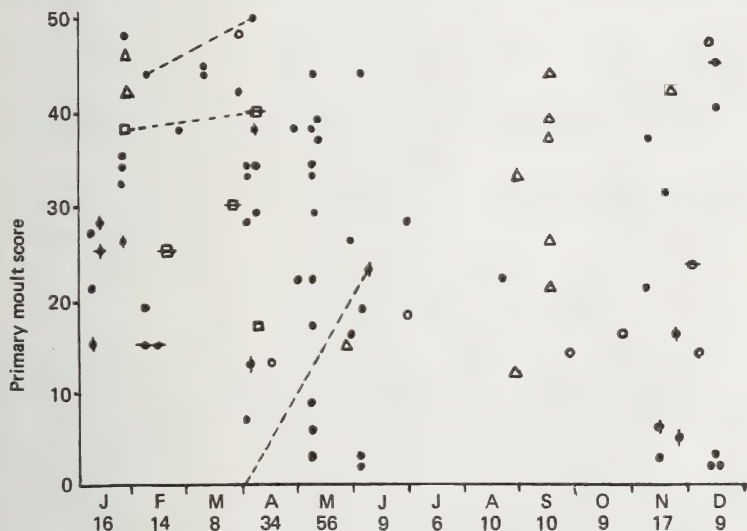


Fig. 3. Primary moult scores of *Ploceus bojeri* ●, *P. ocularis* ○, *P. nigricollis* □ and *Euplectes nigriventris* △. Conventions as in Fig 1

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(Received 14 June 1986)

SHORT COMMUNICATIONS

A LEVANT SPARROWHAWK SPECIMEN FROM UGANDA

Whilst examining *Accipiter* skins at the British Museum (Natural History) at Tring, England, I recently came across an example of a Levant Sparrowhawk *A. brevipes* among East African specimens of Shikra *A. badius sphenurus*. The bird was collected by C.R.S. Pitman near the Aswa (Achwa) River, east of Paranga, Lango, Uganda on 18 March 1929. It is an adult male, showing dark slaty upperparts and chestnut barring below (adult *A.b. sphenurus* are paler grey above with paler pinkish-brown barring below). The wing measures 218 mm and the tail 155 mm. The second primary is only 1 mm shorter than the fifth, and the latter 14 mm shorter than the third and fourth, these being about equal. The inscription on the collector's label includes the following comment: "Evidently on passage to north. Exceedingly fat. One of several skulking in trees by water holes. Feeding on flying termites". The specimen was also examined by P.R. Colston and M.W. Woodcock who agreed with the identification.

There are very few reports of the Levant Sparrowhawk from the Afrotropical region, and only two previous records from East Africa, a bird collected at Busenga, NW Tanzania on 1 December 1921 (Morrison 1955) and one seen in Meru NP, Kenya on 8 November 1983 (EANHS O S-C 1984). The Tring specimen thus provides an addition to the Uganda list.

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Scopus 10: 107, December 1986.

SOUTHERN TANA RIVER OBSERVATIONS

Between 28-31 December 1985 I had occasion to visit a relatively unknown sector of Kenya. Through the good organization of Rinaldo and Jill Retief, combined with Terry O'Meara's expertise, a group of us were able to explore the southern Tana River delta area some 25 km south of Kipini at Sherekiko.

This short note is written to record two unusual sightings of birds among the 79 species noted during the four days. The trip started upstream at Semikaro by boat, taking some 2½ hours to negotiate the 40 km odd to the river's southern mouth. The first 12-15 km took us through riverine cultivation, mainly mango trees and bananas, before entering generally uninhabited country. The slow flowing, winding river then progresses bordered by seasonally

high grasses, various palms and some woodland, before emerging into mixed mangrove tidal vegetation. At this time of year mudbanks, exposed by the tide, are frequented by many Palaearctic waders besides large numbers of herons, storks, ibis, stone curlews, plovers and various water fowl. The boat trip on the lower reaches is enhanced by frequent sightings of crocodiles and the occasional hippo.

The two observations of particular interest were of the following species:

Ixobrychus sturmi Dwarf Bittern

I made 12-15 sightings, all of only single birds, flushed from dense riverine vegetation by the motor-powered boat.

Pluvialis dominica Lesser Golden Plover

On 29 December seven birds of this species were observed at ranges up to 40m with 10 x 40 binoculars. The birds were situated on the sea shore exposed by the receding tide north of the estuary. On 31 December a flock of 57 Lesser Golden Plovers were observed in the same general area at ranges up to 30m using identical binoculars. Identification was established by the more slender, longer-legged appearance than Grey Plovers *P. squatarola* which were also present. Combined with a pale eye-stripe, mottled deep golden brown and black upperparts and pale grey-brown axillaries and underwing, this bird cannot be confused with any other species. Of interest is the apparent habit of 'freezing' in any stance when under close pre-flight observation, thus enabling me to accurately count 57 birds within 35m range.

A.L. Archer, Wildlife Services Ltd., Box 30678, Nairobi.

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THE COMPOSITION OF BWINDI FOREST BIRD PARTIES

Bird parties or mixed-species flocks are a conspicuous feature of tropical woodland and forest. They consist of a mobile feeding association of a number of different species, usually insectivorous (see Winterbottom 1943, Vernon 1980, Pomeroy & Tengecho 1982 and references therein).

Between 21 August and 12 September 1984 I recorded the composition of 18 mixed-species flocks in the Bwindi (formerly Impenetrable) Forest, southwest Uganda. Flocks were seen in hillside and valley forest at altitudes between 2130m and 2440m. In all, 47 species joined flocks, the vast majority being entirely or predominantly insectivorous. Birds feeding mainly on fruit or seeds (e.g. the Speckled Mousebird *Colius striatus*, Slender-billed Greenbul *Andropadus gracilirostris*, Thick-billed and Streaky Seed-eaters *Serinus burtoni* and *S. striolatus*) occurred in a few parties. The number of species per party ranged from 3 to 12, with a mean of 6.9.

Most parties moved mainly through the canopy, but three were confined to the undergrowth.

Three 'nuclear species' (as in Winterbottom 1943, Start 1971) were clearly identifiable: they were the White-headed Wood Hoopoe *Phoeniculus bollei*, Chestnut-throated Apalis *Apalis porphyrolaema* and Yellow White-eye *Zosterops senegalensis*, all noisy species occurring in small to medium sized groups. At least one nuclear species was present in 14 out of 15 canopy parties; in 9 cases there were two nuclear species but no party had all three. The three undergrowth parties seemed to lack nuclear species.

Other species regularly joining parties (recorded in five or more) included the Stripe-breasted Tit *Parus fasciiventer*, African Hill Babbler *Alcippe abyssinica*, Yellow-streaked Greenbul *Phyllastrephus flavostriatus*, Masked Apalis *Apalis binotata*, Rwenzori Batis *Batis diops* and Strange Weaver *Ploceus alienus*.

DISCUSSION

In Table 1 Bwindi bird parties are compared with some of those studied elsewhere in Africa. The number of species joining is well within the range represented, being close to the mean of 49 species for the other nine localities. The maximum and mean number of species per party cannot be calculated for some studies, but the values for Bwindi are slightly lower than those others which are obtainable. (The latter measure will in any case be affected by differing criteria for the minimum number of species constituting a party.)

The identity of the nuclear species varies interestingly. *Z. senegalensis* is a nuclear species in Zambian woodland (Winterbottom 1943) as well as in Bwindi, but not elsewhere, although it joins bird parties in a number of places. The other studies show no equivalents to *P. bollei* and *A. porphyrolaema* in Bwindi. Two drongo *Dicrurus* species are essential to the formation of bird parties in the east Usambaras (Stuart & Hutton 1977), but although *D. adsimilis* joins parties in Bwindi and six of the other localities, it usually does so briefly or rarely, and is nowhere else regarded as a nuclear species. Greig-Smith (1978) and Start (1971) stress the importance of tits *Parus* spp. as the sole nuclear species in their studies, and the Southern Black Tit *P. niger* is one of the four nuclear species recorded by Winterbottom (1943). However, while both *P. fasciiventer* and the Dusky Tit *P. funereus* joined parties in Bwindi, the former regularly, neither could be considered a nuclear species, nor was the White-bellied Tit *P. albiventris* at Masalani (Pomeroy & Tengecho 1982).

ACKNOWLEDGEMENTS

These observations were made during the Cambridge Bwindi Forest Study Group's expedition to the forest in 1984. My thanks to all the individuals and organizations who made this visit possible, and to the Ugandan Forest Department and National Research Council for permission to work in Bwindi.

Table 1. Characteristics of bird parties in Bwindi and elsewhere in Africa

Study	Locality	Habitat	A	B	C	Nuclear species	non-nuclear species present that are nuclear elsewhere
Winterbottom 1943	E.Zambia W.Zambia	Woodland Woodland	53 61	? ?	7.7 9.9	<i>Eremomela scotops</i> <i>Hyliota flavigaster</i> <i>Zosterops senegalensis</i> <i>Parus niger</i>	<i>Dicrurus adsimilis</i>
Start 1971	Nairobi Kenya	Dry montane forest	25	?	?	<i>Parus albiventris</i>	<i>Apalis cinerea</i> <i>Z. senegalensis</i> <i>Z. abyssinica</i>
Stuart & Hutton 1977	E.Usambaras Tanzania	Intermediate wet forest	67 a)21 b)23	8.9 9.2	a) b)	<i>Dicrurus ludwigii</i> <i>D. adsimilis</i>	<i>Z. senegalensis</i>
Greig-Smith 1978	Ghana	Wooded grassland	56	?	?	<i>Parus leucomelas</i>	<i>D. adsimilis</i>
Britton & Zimmerman 1979	Soko forest, Kenya	Lowland forest	31	14	8.2	not discussed (probably <i>Prionops retzii</i> and <i>P. scopifrons</i>)	<i>D. adsimilis</i>
Vernon 1980	Lake Kyle Zimbabwe	<i>Brachystegia</i> woodland	51	?	12.0	none?	<i>D. adsimilis</i> <i>Z. senegalensis</i>
Pomeroy & Tengecho 1982	Masalani Kenya	Bushed woodland	65	21	8.5	none	<i>D. adsimilis</i> <i>P. albiventris</i>
Pomeroy & Tengecho 1982	Selengei Kenya	Open woodland	36	15	7.1	none	<i>D. adsimilis</i>
This study	Bwindi forest Uganda	Moist lower montane forest	47	12	7.0	<i>Z. senegalensis</i> <i>Apalis porphyrolaema</i> <i>Phoenixulus bollei</i>	<i>D. adsimilis</i> <i>Parus fasciiventer</i> <i>P. funereus</i>

Notes: A = number of species recorded joining parties; B = maximum number of species in a party;

C = mean number of species per party

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A TWENTY-YEAR-OLD GREENBUL FROM WESTERN KENYA

On 6 January 1985, in my former study area in the Kakamega Forest (Zimmerman, *Bulletin of the American Museum of Natural History* 129, 1972), Dr Simon Cox mist-netted a female Cameroon Sombre Greenbul *Andropadus curvirostris* which I had ringed there on 22 June 1965. According to information kindly supplied by Dr Cox, this remarkable bird was captured within 30 to 50m of the ringing site. She was a breeding adult when I first captured her in 1965, making her age at least twenty years - one of the oldest recorded passerines and apparently a record for any tropical species.

Longevity records of wild birds cited by Campbell & Lack (A Dictionary of Birds, Calton: Poyser, 1985, p.7) include only three passerines in the twenty-year range: a Blackbird *Turdus merula*, 20.3 years; a Starling *Sturnus vulgaris*, 20.0 years; and a Rook *Corvus frugilegus* 19.9 years of age). The only pycnonotid cited by Campbell & Lack is *Pycnonotus plumosus*, an individual of which was recorded as 11.7 years. These data represent "maximum recorded elapsed time between ringing and recovery."

My thanks to Graeme Backhurst for notifying me of the Kakamega bird's recapture, and to Dr Cox for providing confirmation and various additional details.

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[The above-mentioned record was included by C.F. Mann in his paper 'An avifaunal study in Kakamega Forest, Kenya, with particular reference to species diversity, weight and moult', *Ostrich* 56: 236-262, December 1985. Ed.]

THE YELLOW-STREAKED GREENBUL IN KENYA

Britton (1980) attributes *Phyllastrephus flavostriatus tenuirostris* to Kenya solely on the basis of the specimen collected on Mt Kasigau, southwest of Voi on 18 November 1938 (Rand, *Fieldiana, Zoology* 35, 1958: p.203). Overlooked in their account was the first Kenyan specimen secured by Blaney Percival at or near Fort Hall on 4 April 1917. This record was originally mentioned as "probably *tenuirostris*" by Meyer de Schauensee in a paper on Northern Rhodesian birds (*Proceedings of the Academy of Natural Sciences of Philadelphia* 103, 1951: p.48). It was also referred to by Rand (*loc. cit.*). Perhaps this early specimen was the basis for V.G.L. van Someren's statement (*Novitates Zoologicae* 29, 1922: p.185), "According to Oberholser, this species ranges into British East Africa."

I recently had opportunity to examine this specimen (ANSP 95955) in the collection of the Academy of Natural Sciences. It is an unsexed adult. There are no data relative to habitat or precise locality where it was collected; the label merely reads "Fort Hall". Turner & Zimmerman (*Scopus* 3, 1979: 41), also unaware of this specimen, reported that the species' current status in Kenya was unknown, and that there were no recent records. This remains true.

Two early records of this species, one as far north as Murang'a, suggest that this bird probably has been overlooked in subsequent years. However, the extensive deforestation in recent decades casts some doubt on its continued existence in this country. Observers in montane forest should be on the alert for it.

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A NEST RECORD FOR *PHYLLOSCOPUS LAETUS*
THE RED-FACED WOODLAND WARBLER

Phylloscopus laetus, endemic to the montane forests of the Albertine Rift (Prigogine 1985), is a common bird where it occurs, but little known. Mackworth-Praed & Grant (1973) found only one record of its nest, which they describe as a domed structure of moss and dry leaves placed a few feet from the ground between two branches, with a side entrance about a third of the length from the top. Lippens & Wille (1976) give a nearly identical description, and record breeding in Kivu, East Zaire, between January and August, i.e. in the last part of the rains and in the dry season. (It is not clear whether these dates derive from observation or from examination of the gonadal condition of the specimens.) The species seems to have entirely escaped the attention of Brown & Britton (1980).

On 4 September 1984 in the Bwindi (formerly Impenetrable) Forest, SW Uganda, I watched a single *P. laetus* nest-building very actively in valley forest at 2100m. The nest site was quite different from that described by Mackworth-Praed & Grant (1973). About 10m up in a large, straight-boled tree a nearly vertical branch emerged. From it projected horizontally a dark mass of tangled epiphyte roots, moss-covered, approximately 50 cm high and 20 cm across. In the very centre of this mass was a small round hole into which the bird regularly disappeared with nesting material, emerging after a short time. The bundles of material it carried were often almost as large as itself; they appeared to consist of lichen mixed with other debris, probably scraps of dead leaves.

In 1984 the rainy season in Bwindi had begun in the last week of August after an unusually severe dry period; this record is thus for the early rains. Although nest-building does not necessarily imply breeding activity, the two are likely to be connected in a phylloscopine warbler, indicating that the species may breed at a different season in Bwindi than in Kivu.

ACKNOWLEDGEMENTS

This observation was made during the Cambridge Bwindi Forest Study Group's expedition to the forest in 1984. I thank all those individuals and organizations who made this visit possible, and the Ugandan Forest Department and National Research Council for permission to work in Bwindi.

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L.A. Bennun, Box 21149, Nairobi

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LETTER TO THE EDITOR

Sir,

Clancey's recent paper 'Taxonomic notes on some birds from East Africa' (*Scopus* 10: 33-40) drew attention to some apparent lapses and inconsistencies in the nomenclature which we followed in *Birds of East Africa* (Britton 1980). None of the ten authors is a museum specialist, and we appreciate that Clancey's appraisal is far more proper and thorough than was our cursory review of relevant literature. Nevertheless, subjective analysis is inevitable when variation is examined at the subspecies level. Further debate is perhaps unreasonable, but I think it necessary to identify six species in his paper which were given correct treatment in terms of the procedures outlined in the text itself.

Buccanodon whytii

White (1965, *A revised check list of African non-passerine birds*, Lusaka: Government Printer) includes *eurom* in the synonymy of nominate *whytii*, and we followed this opinion.

Pogoniulus chrysoconus

White (1965) includes *dryas* and *rhodesiae* in the synonymy of *extoni*, and we followed this opinion.

Cercotrichas quadrivirgata

White (1962, *A revised check list of African shrikes, etc.* Lusaka: Government Printer) includes *rovumae* and *erlangeri* in the synonymy of the nominate form. Clancey argues that the pattern of variation now determined presupposes that *brunnea* (which we referred to as being described and perhaps valid) may be part of *rovumae*.

Clytospiza monteiri

Clancey resurrects *ugandensis* (van Someren 1921) though White (1963, *A revised check list of African flycatchers, etc.* Lusaka: Government Printer) regarded the species as monotypic, and we followed this opinion.

Cryptospiza reichenovii

Clancey places *ocularis* in the synonymy of the nominate form. We followed White (1963) who included *ocularis* in the synonymy of *australis*.

Plocepasser mahali

We referred to the discussion in Benson et al. (1970, *Arnoldia* (Rhodesia) 4(40): 1-59) which resulted from a thorough appraisal of relevant specimens. Clancey's conclusions might result from a more detailed investigation using some more recent material, though the late C.W. Benson examined all British Museum (Nat. Hist.) material then available.

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Australia

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Received 20 July 1986

NOTICES

SYMPOSIUM: BIRDS OF EVERGREEN FOREST. 8-10 September 1987 at the Wilderness, Cape Province, South Africa.

Papers and posters on the following topics: forest bird communities, biogeography of forest birds, population biology of forest birds, conservation of forest avifaunas.

Prospective participants should contact the Symposium Organising Committee, E.C.W.B.S., P.O. Box 1305, Port Elizabeth 6000, S. Africa.

GABAR - A new journal covering African raptors

GABAR (Growth and Biology of African Raptors) is a new journal publishing material on African raptors, here defined as eagles, hawks, harriers, buzzards, falcons and owls, i.e. excluding vultures, seabirds and other predatory birds already covered by specialist publications in the region. Contents will include: short papers on completed studies, progress reports on ongoing research, short notes, unusual sightings, conservation problems and a Forum in which opinions, continuing controversies, constructive criticisms and new ideas are aired and challenged. The first edition has been printed and copies can be obtained free of charge from the address below. Subsequent editions will be distributed on receipt of a subscription fee.

Robert Simmons, Editor - **GABAR**, Dept. of Zoology, University of Witwatersrand, Johannesburg 2001, Republic of South Africa.

MALIMBUS 8(2) DECEMBER 1986

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SCOPUS SUBSCRIPTIONS AND 1986 BIRD RECORDS

Subscriptions for 1987 are due. Full details are inside the front cover of this issue. The fifth issue of *Scopus* volume 9, the East African Bird Report 1985 is currently in preparation and records for Kenya, Tanzania and Uganda for 1986 (as well as any outstanding records for earlier years) should be sent in as soon as possible please. Afrotropical records to D.A. Turner, Box 48019, Nairobi, Palaearctic ones to Dr D.J. Pearson, Department of Biochemistry, University of Nairobi, Box 30197, Nairobi.

SHORT REVIEWS

Proceedings of the Birds and Man Symposium (Johannesburg 10-15 April 1983). Edited by L. John Bunning, Witwatersrand Bird Club, Johannesburg, December 1985. 361 pp., soft covers, US\$32.00 including postage and packing.

An excellently produced document on the contributions given at this important meeting. Most papers are on southern African topics but there are some from the UK, USA and Australia as well. The book is available from the WBC, Box 72091, Parkview 2122, Johannesburg.

Proceedings of the International Conference on the Quela: ecology, management, policy (Kenya 13-23 January 1985). Edited by C.C.H. Elliott and M.M. Jaeger. 132 pp., soft covers. Available from the FAO Representative in Kenya, Box 30470, Nairobi.

A very useful summary of this conference which also touched on other pest birds. Papers are presented in summary, followed by a selection of questions and answers and comments. The whole text is given first in English and then in French.

Any reference cited should be listed at the end of the contribution following the form used in this issue. Names of periodicals must be given in full and, in the case of books, the town of publication and the publisher should be given. A number of works, which are cited frequently, should not be listed under 'References'; the name(s) of the author(s) and date(s) of publication should be given in the text in the normal way.

All contributions, which will be acknowledged, should be sent to the Editor, G.C. Backhurst, Box 24702, Nairobi.

WORKS WHICH SHOULD NOT BE LISTED UNDER 'REFERENCES'

- BACKHURST, G.C., BRITTON, P.L. & MANN, C.F. 1973. The less common Palaearctic migrant birds of Kenya and Tanzania. *Journal of the East Africa Natural History Society and National Museum* 140: 1-38, = Backhurst *et al.* 1973.
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EAST AFRICAN BIRD REPORT

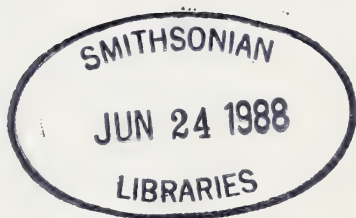
This forms the fifth issue of *Scopus* and each report covers one calendar year. Records of Afrotropical Region and Oceanic birds should be sent to D.A. Turner, Box 48019, Nairobi; records of Palaearctic Region birds to Dr D.J. Pearson, Department of Biochemistry, University of Nairobi, Box 30197, Nairobi. Records should be sent in early in the new year to ensure the speedy production of the Bird Report. Reports of rare birds may be telephoned through to any OS-C member (numbers inside front cover) in the hope that the bird(s) may be seen by others.

Criteria covering the submission of Bird Report records are given in *Scopus* Supplement, June 1982, copies of which are available from D.A. Turner.

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SCOPUS



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Edited by
Graeme Backhurst

SCOPUS

Cover illustration from a gouache painting by Dr P.A. Clancey

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Contributions should be typed in 1.5 or double spacing on one side of the paper only, with wide margins all round, and should be sent in duplicate. Hand-written MSS will also be considered but they must be clearly written, and sent in duplicate too. Both English and scientific names of birds should be given when the species is first mentioned, thereafter only one name should be used; they should be those of *Birds of East Africa* unless the species does not occur in that work. Tables, which should be numbered, should appear in the typescript, not grouped together on separate sheets at the end. Metric units should be used. Contributions will be welcomed on floppy disk—please contact the Editor for details.

Illustrations should be on good quality white paper or tracing material, in line, and should not be larger than 19 x 23 cm. Unless the author can provide professional quality lettering, it should be done lightly in pencil. Each illustration should be numbered (Fig. 1, etc.) and be provided with a legend typed on a separate sheet of paper. Photographs will be considered and should be good quality black and white.

Any reference cited should be listed at the end of the contribution following the

GENERAL REVIEW

This is almost entirely a Kenyan report. We received very few records from Tanzania in 1986—mostly from the north—and none at all from Uganda. There were two additions to the East African list. Immature Shy Albatrosses *Diomedea cauta*, vagrants from the southern oceans, were brought ashore by fishermen near Mtwara, in Tanzania, and Mombasa. The first of these was actually in September 1985, but details were not available until 1986. The other new species was even more unexpected. A party of Demoiselle Cranes *Anthropoides virgo*, eight adults and a juvenile, was found on pools at Ngomeni, north of Malindi, in January, and again soon afterwards at the nearby Fundisha salt works. Two months later what was undoubtedly the same group was seen some 600 km to the northwest, at Timau. Enquiries failed to elicit any information to suggest that these birds were escapes, and it is assumed that they were wild birds wintering over 1500 km south of their normal limit in Ethiopia.

There were fewer than usual other records of real note, but the following deserve mention: further Black-browed Albatrosses *Diomedea melanophrys* off Shimoni, a White-backed Night Heron *Gorsachius leuconotus* in the Mara, a Brown-chested Wattled Plover *Vanellus superciliosus* in central Kenya and another Eurasian Sparrowhawk *Accipiter nisus*, this time at Nairobi. It also came to our attention during the year that no fewer than seven species new to Tanzania had been discovered in 1984 in Minziro Forest, which lies a few kilometres south of the Uganda border on the west shore of Lake Victoria (see *Scopus* 11: 9–12).

In Kenya, after a rather dry start to the year, the long rains were only moderate and not very prolonged, starting in early April; northward passage of Palaearctic passerines was not especially noticeable although substantial numbers of shrikes *Lanius* spp. were observed around Nairobi on 11–13 April. Regular morning visits to the base of powerful lights at the Kiambere dam construction site on the Tana River revealed scores of migrants, especially around new moon periods, and some were present there as late as mid May (see *Scopus* 11: 38–41). The short rains began in central and southeast Kenya at the end of October, and there was some early mist then at Ngulia. The rains became widespread and heavy in many southern parts of the country during late November and early to mid December. On 7–8 December particularly heavy rain brought a fall of hundreds of passerine migrants, mostly Sedge Warblers *Acrocephalus schoenobaenus* and Reed Warblers *A. scirpaceus*, to Kichwa Tembo camp in the Mara, and on the same day some interesting migrants were caught at Ngulia. Great Reed Warblers *A. arundinaceus*, which are unusual at this time of year, were seen at Kichwa Tembo (several), caught at Ngulia (a record four in one day) and observed at the unlikely site of Ologesaillie.

The rift valley lakes continued to fall, with very little seasonal inflow during April–August. Lake Nakuru was very shallow, and though it still held hundreds of thousands of Lesser Flamingos *Phoeniconaias minor*, there were few waders, ducks, gulls or pelicans by the end of the year. Lake Naivasha, on the other hand, had extensive muddy bays and fringes, and held an estimated 10 000 migrant waders in December, including an unprecedented 300+ Black-tailed Godwits

Limosa limosa. Ferguson's Gulf at Lake Turkana was practically dry by March, and did not refill again.

It is now eight years since the publication of *Birds of East Africa*. During this period the taxonomy of some groups has been extensively reviewed; other minor changes affecting East African birds have been suggested, and some of these have attracted general approval. Various new English names have also been introduced, not least in the on-going handbook series *The birds of Africa*. We feel, therefore, that this is an appropriate time to revise the taxonomy and English nomenclature of the East African list. We plan to produce a revised list during 1988, this time in systematic rather than alphabetic order. We are carrying out this exercise in consultation with those presently working on the revision of African bird lists elsewhere, and it is our intention to confine systematic or English name changes to the minimum necessary to keep abreast of current ideas and practice.

D.J. Pearson, Chairman, Ornithological Sub-Committee, E.A.N.H.S.

Scopus 10 (5): 117–118, April 1988

SPECIES REPORT

This report covers the three East African countries Kenya, Tanzania and Uganda (but no records were received from Uganda this year). Records are included under one or more categories, indicated by code letters as follows:

- S(A): Scarce** species in category **A** (five or fewer previous records from East Africa); all records of such species are published.
- S(B): Scarce** species in category **B** (six to twenty-five previous records from East Africa); all records of such species are published.
- R:** Species of interest whose status in East Africa requires clarification, and for which all records are **Requested**. Records may be listed or summarized in full each year, or reviewed after several years.
- E:** Records showing an **Extension** of range, or from areas where the species is decidedly uncommon to scarce.
- N:** Records included for their **Numerical** interest, either of particularly large numbers or of careful counts.
- D:** Records of migrants where **Dates** are of interest.
- B:** Records of **Breeding** interest, from new or unusual areas or involving interesting numerical elements.
- M:** Records of **Miscellaneous** interest.

Records were collated by D.A. Turner and D.J. Pearson. All refer to Kenya unless otherwise stated

Afrotropical and Oceanic Species

PODICIPEDIDAE: GREBES

***Podiceps nigricollis* Black-necked Grebe** R: 1 Lake Nakuru 12 Mar (DKR), 1 Ferguson's Gulf 20–21 Mar (DAT, DJP), c. 100 Lake Bogoria during July (TS), 30+ Lake Nakuru 12–13 Nov (DW).

DIOMEDEIDAE: ALBATROSSES

***Diomedea cauta* Shy Albatross** S(A): immature caught off Mombasa late Oct, died later when taken to Nairobi (*per* M. Hyder), see *Scopus* 11:44.

First Kenya record

***Diomedea melanophrys* Black-browed Albatross** S(A): 1 off Shimoni 9 Feb (MH, PH) and 2 there 16 Sep (SH, JF).

PHAETHONTIDAE: TROPICBIRDS

***Phaethon lepturus* White-tailed Tropicbird** S(B): singles off Shimoni 5 Feb and 14 Sep (PH).

SULIDAE: BOOBIES

***Sula dactylatra* Masked Booby** R: singles off Shimoni 8 Feb, 17 Aug and 7 Sep (PH).

ARDEIDAE: HERONS

***Ixobrychus minutus payesii* Little Bittern** R: pair Nguuni, 9 km NE of Mombasa, 15 Apr (CR), 5+ SW shore of Lake Baringo, Jun–Jul (TS), 2 males Thika 18 Aug (JMC), 1 male Ras Ngomeni 23 Aug (JMC), 1 Tana River 4 Nov (DW), 1 Lake Baringo 11 Nov (DW).

***Ixobrychus sturmii* Dwarf Bittern** R: 1 immature Rift Valley swamp behind the Ngong Hills 4 Jul (ADL).

***Ardeola idae* Madagascar Squacco Heron** R: present Thika OPs 10 May to 20 Sep (DJP), up to 4 Nguuni, near Mombasa May–Sep (CR), 2 Amboseli 11–12 May (LCDF), 1 Nairobi NP 14 Jul, 27 Aug and 9 Sep (DKR, JMC), 1 near Eldoret 12 Aug (JMC), 1 Ras Ngomeni 24 Aug (JMC) and in Tanzania, singles Dar es Salaam 24 Aug, 4 and 6 Sep and Rufiji River 25 Aug (ZB).

***Egretta ardesiaca* Black Heron** R: up to 8 Lake Baringo Jan to late Mar (TS), c. 130 Abarriya (E of Tana River) near Idsowe 22 Feb (LCDF), 1 Nguuni 5 May (CR), 1 Amboseli 12 May (LCDF), 1–4 Lake Baringo Nov–Dec (TS) and in Tanzania, singles at Dar es Salaam 7 and 18 Sep (ZB).

***Gorsachius leuconotus* White-backed Night Heron** R: 1 at dusk north-west Mara GR 15 Nov (CG) and 1 Ruaha NP, Tanzania, 29 Aug (ZB).

CICONIIDAE: STORKS

***Ciconia abdimii* Abdim's Stork** ND: 100s Mara GR 8 Jan (DKR), 30 there on 16 Mar and 11 Apr (DKR). In Tanzania, 100s Ngorongoro Crater highlands 10–11 Feb and 100s Serengeti 12–16 Feb (DKR), c. 250 Tunduma 16 Dec (DM).

***Ciconia episcopus* Woolly-necked Stork** E: 1 Lake Baringo 13 Apr (TS); a pair Mara GR throughout the year (DKR, DW, JMC) and a few throughout the year Kiambere–Kindaruma–Kamburu (BB).

Leptoptilos crumeniferus Marabou B: c. 12 pairs breeding Karura dam, Tana River in Sep (BB).

PHOENICOPTERIDAE: FLAMINGOS

Phoenicopterus ruber Greater Flamingo EN: Lake Naivasha: 300+ 14 Mar and 100+ 23 Nov (DKR).

ANATIDAE: DUCKS AND GEESE

Nettapus auritus African Pygmy Goose R: 10 Tiwi pond, south of Mombasa 1 May (CR), and present Port Victoria 6–7 Aug (JMC).

ACCIPITRIDAE: BIRDS OF PREY

Gypohierax angolensis Palm-nut Vulture ER: 1 Kindaruma 3 Aug and 26 Oct (BB), present Karura dam 20 Sep (BB), 1 Thika 30 Oct (TS).

Gypaetus barbatus Lammergeyer R: 1 Timau 4 Mar (DJP), 1 Amboseli 11 May (LCDF); in Tanzania, 1 Serengeti NP near Gol Mts 14 Feb (DKR) and 1 Gol Mts 28 Jul (DM).

Circetus fasciolatus Southern Banded Snake Eagle R: 1 Shimba Hills 22 Mar (CR).

Accipiter minullus Little Sparrowhawk R: records only received from the coast and Tana River areas.

Accipiter ovampensis Ovampo Sparrowhawk R: 1 Mara GR 31 Aug (DAT). In Tanzania, 1 Ruaha River gorge between Morogoro and Iringa 29 Aug (ZB).

Accipiter rufiventris Rufous Sparrowhawk E: 1 immature Ol Doinyo Orok (Namanga) 24 Mar (LAB, *et al.*—see *Scopus* 10: 83–86).

Aquila verreauxi Verreaux's Eagle E: Tanzanian records from Lake Manayara NP and Ruaha River gorge (DW, FA, DM, ZB).

Butastur rufipennis Grasshopper Buzzard R: 1 Lake Bilisa 22 Feb (LDCF), up to 5 Kiambere 27 Feb to 9 Apr (BB), 1 Taita Hills 7 Apr (DJP); singles Tsavo West NP 2 and 6 Nov (GCB) and Meru NP 8 Nov (DKR).

Kaupifalco monogrammicus Lizard Buzzard E: singles Mara GR 17 Mar and 13 May (DKR).

Stephanoaetus coronatus Crowned Eagle R: pair in riverine forest Thika 29 Mar (BB).

Aviceda cuculoides Cuckoo Hawk R: recorded from Nairobi, Aberdare Salient and Mara GR Jan, Mar, Jul and Aug.

Chelictinia riocourii Swallow-tailed Kite R: recorded from Kedong Valley, Lakes Naivasha and Nakuru, Loiengalani, Suguta Valley and near Lodwar.

Macheiramphus alcinus Bat Hawk R: recorded from Kakamega, Lake Baringo, Treetops (Aberdares) and Kilifi.

FALCONIDAE: FALCONS

Falco alopex Fox Kestrel R: 1 Suguta Valley 20 Oct (MACC).

Falco chicquera Red-necked Falcon R: only reported from Sabaki River mouth 24 Nov (DW).

Falco cuvieri African Hobby R: only records were from Meru town, Kisumu and Kakamega in Nov (DKR, DW).

Falco rupicoloides White-eyed Kestrel E: present Lodwar area 20 and 21 Mar (DJP, ADL, DAT).

PHASIANIDAE: GAME BIRDS

***Coturnix chinensis* Blue Quail** R: male near Ololoo Gate, Mara GR in Aug (BWF).

***Francolinus psilolaemus* Moorland Francolin** R: 5 on northern grasslands, Mt Kenya 3 May (JPC), c. 4 Lewa Downs 26 Sep (TS).

***Ptilopachus petrosus* Stone Partridge** R: common near Ewaso Nyiro near Barsalinga 1 Jun (DKR) and calling Lewa Downs 10 Aug and 11 Oct (DKR).

NUMIDIDAE: GUINEAFOWLS

***Guttera pucherani* Kenya Crested Guinea fowl** R: a flock in forest at the north end of Meru NP 15 and 16 Aug (DKR).

TURNICIDAE: BUTTON QUAILS

***Turnix sylvatica* Button Quail** R: singles caught and ringed Ngulia 2 and 6 Dec (GCB, DJP). B: adult and 2 young Tsavo West NP 29 Dec (BG).

RALLIDAE: RAILS, CRAKES

***Crex egregia* African Crake** R: singles at Nguuni 5 and 25 May, 14 Jun, 1 Jul, 20 Aug and 20 Oct (CR), 2 Ngomeni 13 Sep (TS) and Mogotio 30 Nov (TS).

***Porphyrrio alleni* Allen's Gallinule** R: up to 50 Lake Baringo Mar-Aug (TS) and singles Thika area 5 Jan and 12 Jul (BB).

***Sarothrura elegans* Buff-spotted Pygmy Crake** R: calling Irangi Forest, Mt Kenya at 2000 m 8 Apr (DAT).

***Sarothrura rufa* Red-chested Pygmy Crake** R: in Tanzania, common in reeds Tatanda throughout the year (DM).

HELIORNITHIDAE: FINFOOTS

***Podica senegalensis* African Finfoot** R: 1 Nairobi NP 12 Apr and 1 Aug (LCDF, JMC). B: building nest Nairobi NP during Mar (DAT).

OTIDIDAE: BUSTARDS

***Neotis denhami* Denham's Bustard** R: recorded as follows: Aitong, Mara GR, Maralal and between Wamba and Maralal (JPC, DKR, DAT, DW).

ROSTRATULIDAE: PAINTED SNIPES

***Rostratula benghalensis* Painted Snipe** R: recorded from Lake Baringo, Rift Valley Swamp behind Ngong Hills, Athi River, Lake Kenyatta and near Homa Bay, Feb, Mar, Jun-Aug (ADL, TS, LCDF, JMC). In Tanzania from the Selous GR on 27 Aug (ZB).

CHARADRIIDAE: PLOVERS

***Charadrius marginatus* White-fronted Sandplover** R: 1 Kindaruma Dam 11 Jan (BB).

***Charadrius pallidus* Chestnut-banded Sandplover** E: 12 Suguta Valley 31 Dec (MACC).

***Vanellus lugubris* Senegal Plover** B: pair with 2 eggs Aberdare Salient 3 Mar (DKR) and a pair with 2 young near Lolgorien 17 Nov (DW).

***Vanellus superciliosus* Brown-chested Wattled Plover** E: 1 with broken wing Ruiru, 10 km north of Nairobi, early Jan (DJP).

First Kenya record away from Lake Victoria

GLAREOLIDAE: COURSERS, PRATINCOLES

***Cursorius cursor* Cream-colloured Courser** B: pair with chick Lewa Downs 18 Oct (DKR).

LARIDAE: GULLS AND TERNS

***Sterna fuscata* Sooty Tern** R: 7 Sabaki River mouth 24 Aug (JMC).

***Sterna repressa* White-cheeked Tern** R: recorded from Sabaki River mouth (>500 24 Aug), Malindi, Tiwi and Galu Mar, May, Aug and Nov (LCDF, DJP, JMC, DW).

RYNCHOPIDAE: SKIMMERS

***Rynchops flavirostris* African Skimmer** R: records from Lake Nakuru, Kindaruma and Sabaki River mouth (BB, DKR, LCDF, JMC); in Tanzania up to 25 Rufiji River late Aug (ZB) and 7 in Ruaha NP 31 Aug (ZB).

PTEROCOLIDAE: SANDGROUSE

***Pterocles lichtensteinii* Lichtenstein's Sandgrouse** R: 13 Samburu GR 3-4 Apr (JPC).

MUSOPHAGIDAE: TURACOS

***Tauraco leucolophus* White-crested Turaco** R: recorded near Nakuru and Marigat Nov and Dec (DKR, DAT).

CUCULIDAE: CUCKOOS

***Cercococcyx montanus* Barred Long-tailed Cuckoo** R: 2-3 calling Irangi Forest, 2000 m, Mt Kenya between Feb and Apr (DAT, DAZ, DJP) were the first records from the mountain since Mar 1962.

***Clamator glandarius* Great Spotted Cuckoo** R: recorded Lodwar, Ferguson's Gulf, Eliye Springs, Katilu, Mara GR in late Mar (JPC, DJP, ADL), Emali 5 Apr (DJP), Meru NP 14 Jun (JPC); Buffalo Springs and Archer's Post 7-8 Nov (DW) and Lake Naivasha 31 Nov and 8 Dec (MACC). B: c. 20 Lake Baringo May-Jul: hosts Red-winged Starling *Onychognathus morio* and Bristle-crowned Starling *O. salvadorii* (TS).

***Clamator jacobinus* Black and White Cuckoo** R: Katilu 24-25 Mar, Nairobi NP 12 Apr, Taita Hills Lodge 13 Apr, Mariakani 18 Apr, Nguuni, near Mombasa 30 Apr; 1 black phase Nguuni, near Mombasa 10 Jul; Isiolo 7 Nov, Samburu GR 7-8 Nov, Tsavo West from 2 Nov (including 11 ringed) Ngulia, Kiambere Nov (several observers).

***Clamator levallantii* Levallant's Cuckoo** R: 1 black phase Nguuni, near Mombasa 10 Jul (CR); 2 Amboseli 14 Nov (TS).

***Cuculus clamosus* Black Cuckoo** R: 1 Meru NP 14 Jun (JPC), a few Lake Naivasha during Aug (JMC) and Tsavo West NP in Nov (DJP).

***Cuculus gularis* African Cuckoo** R: recorded as follows: Meto mid Mar, Katilu late Mar, Kajiado mid Apr, Naivasha late Apr, Olorgesailie mid May, Lake Baringo Apr-Jul, Samburu (coast) Oct and 2 immatures Lake Nakuru 13 Nov (DJP, CR, TS, DW).

***Centropus grillii* Black Coucal** R: 1 Nguuni, near Mombasa 26 Jun (CR).

STRIGIDAE: OWLS

***Bubo capensis* Mackinder's Eagle Owl** R: 1 Hell's Gate 15 Jan (LCDF).

***Otus leucotis* White-faced Scops Owl** R: at least 4 pairs resident within 3-km radius of Lake Baringo Lodge (TS).

***Scotopelia peli* Pel's Fishing Owl** R: pair Thiba River, Kamburu 27 Mar, 17 May and 8 Jun (BB).

CAPRIMULGIDAE: NIGHTJARS

***Caprimulgus clarus* Slender-tailed Nightjar** R: 4 ringed Ngulia 24 and 26 Nov (GCB).

***Caprimulgus donaldsoni* Donaldson-Smith's Nightjar** R: 1 Taita Hills Sanctuary 13 Apr (CR); 3 ringed Ngulia between 24 Nov and 4 Dec (GCB, DJP).

***Caprimulgus fraenatus* Dusky Nightjar** R: 1 found dead 10 km SW of Thika 23 Jan (DJP); 3–4 Nairobi NP 3 Nov (DW), 3 ringed 27 Nov to 10 Dec Ngulia (GCB, DJP).

***Caprimulgus inornatus* Plain Nightjar** R: 1 collected Lake Baringo 9 Oct (DAT), 2 (1 found dead) there late Oct to early Nov (TS), 3 ringed Ngulia 7 Nov to 4 Dec (GCB, DJP).

***Caprimulgus natalensis* White-tailed Nightjar** R: 1 calling Kakamega 15 Nov (DW).

***Caprimulgus nubicus* Nubian Nightjar** R: 1 found dead 50 km N of Marich Pass 24 Mar (DJP, ADL); male ringed Ngulia 3 Dec (GCB).

APODIDAE: SWIFTS

***Apus berliozi* Forbes-Watson's Swift** S(B): 40–50 over Sokoke Forest 15 Mar (LCDF), scores there 1 Nov (DJP) and 8 and 3 there 17 Nov (TS).

***Apus horus* Horus Swift** E: 6+ Kibos, Kisumu 25 Mar (LCDF).

***Schoutedenapus myoptilus* Scarce Swift** R: a few over the Kikuyu escarpment 8 Jun (CR).

***Neafrapus boehmi* Böhm's Spinetail** R: 2 Karawa Dam 1 Jan (BB), 2 Kibwezi Forest 20 Aug (JMC), 1 Diani Forest 12 and 14 Oct (TS).

MEROPIDAE: BEE-EATERS

***Merops nubicus* Carmine Bee-eater** B: colony of >300 pairs excavating c. 15 km E of Lodwar 21–22 Mar (ADL, DJP, DAT). E: 3 Lake Naivasha 31 Mar (MACC).

CORACIIDAE: ROLLERS

***Coracias abyssinica* Abyssinian Roller** R: recorded from Lodwar and Lake Baringo (FA, TS, DAT) and 3 at Lake Nakuru 5 Dec (DKR).

***Coracias caudata* Lilac-breasted Roller** E: an example of the northern race *lorti* caught at night at Ngulia 10 Dec (GCB).

Coracias abyssinica* x *caudata M: 1 photographed at Katilu 23 Mar was apparently a hybrid (ADL, DJP, DAT).

***Coracias naevia* Rufous-crowned Roller** N: c. 20 Lewa Downs 10 Aug (DKR).

***Eurystomus glaucurus* Broad-billed Roller** R: singles in Meru and Lake Nakuru NPs in Oct (DKR).

PHOENICULIDAE: WOOD HOOPOES

Phoeniculus granti Violet Wood Hoopoe R: 2 near Wamba 26 May (TS).

BUCEROTIDAE: HORNBILLS

Tockus hemprichii Hemprich's Hornbill B: pair nesting in same cliff site at Lake Baringo for sixth consecutive year (TS). R: 1 Menengai 26 Apr (MACC).

CAPITONIDAE: BARBETS

Buccanodon whytii Whyte's Barbet R: locally common Tatanda, SW Tanzania throughout the year (DM).

Lybius bidentatus Double-toothed Barbet B: adult feeding young Kakamega town 16 Nov (DW).

Lybius frontatus Miombo Pied Barbet S(B): common in woodland around Tatanda, SW Tanzania (DM).

Lybius minor Black-backed Barbet R: locally common Tatanda, SW Tanzania throughout the year (DM).

INDICATORIDAE: HONEYGUIDES

Indicator exilis Least Honeyguide R: at least 2 Kakamega 15 Nov (DW).

Indicator meliphilus Pallid Honeyguide R: at Irangi, Mt Kenya at 2000 m 1 on 13 Mar and 3 on 8 Apr (DAT, DJP).

PICIDAE: WOODPECKERS

Picoides obsoletus Brown-backed Woodpecker R: recorded from Kericho, Nyeri and Nairobi (JPC, TS, PW).

ALAUDIDAE: LARKS

Mirafrapa pulpa Friedmann's Bush Lark S(B): 1 south of Kapedo 25 Mar (DJP, DAT, ADL).

CORVIDAE: CROWS

Corvus rhipidurus Fan-tailed Raven E: 8 Menengai Crater 6 Sep (ADL).

Ptilostomus afer Piapiac R: 8+ Kibos, Kisumu, 27 Mar (LCDF).
Third Kenya record

REMIZIDAE: PENDULINE TITS

Remiz caroli African Penduline Tit EB: pair building at Kongolai 1 Apr (TS).

TIMALIIDAE: BABBLERS

Trichastoma rufipennis Pale-breasted Illadopsis E: 2 trapped Ol Doinyo Orok, Namanga 22 Mar (LAB, CMG, JD, FN).

Turdoides hindei Hinde's Pied Babbler R: 2-3 groups of 6-10 birds present in the Kianyaga area throughout the year (DAT); 8-10 east of Embu 18 Aug (JMC).

PYCNONOTIDAE: BULBULS

Andropadus milanjensis Stripe-cheeked Greenbul E: 1 trapped Ol Doinyo Orok, Namanga, 23 Mar (LAB, CMG, JD, FN).

Chlorocichla flavicollis Yellow-throated Leaflove E: 1 Lake Naivasha 19 Oct (DJP). Full details received.

TURDIDAE: THRUSHES

***Cercomela familiaris* Red-tailed Chat** E: recorded Kito Pass and resident Osiriwa escarpment, Mara GR (ADL, TS, DAT, BWF).

***Monticola rufocinerea* Little Rock Thrush** R: singles Lake Baringo 1 Mar (DKR) and Kito Pass 25 Mar (DJP, ADL, DAT), resident 40 km west of Mugie (TS) and at Mweiga (JPC), 1 near Meru 6 Nov (DKR).

***Oenanthe bottae* Red-breasted Wheatear** R: 114 km south of Lodwar 22 Mar (ADL, DJP, DAT).

***Turdus fischeri* Spotted Ground Thrush** RD: 9 trapped and ringed Gedi 24 Jul to 1 Aug (LAB), 2 Gedi 18 Aug (DAT), 2 Diani Forest 12 Oct (TS).

SYLVIIDAE: WARBLERS

***Apalis melanocephala* Black-headed Apalis** R: several Meru forest Mar (DJP) and a pair Karen forest, Nairobi, 1 Nov (DW).

***Chloropeta gracilirostris* Papyrus Yellow Warbler** E: 1 Kisumu 8 Nov (TS).

***Cisticola aberrans* Rock-loving Cisticola** E: several pairs resident Osiriwa escarpment, Mara GR, presumably of the race *emini*, which would be new for Kenya, see *Scopus* 11: 44–46 (BWF, TS, DAT).

***Cisticola woosnami* Trilling Cisticola** E: several pairs resident at forest edges above and below Osiriwa escarpment, Mara GR (BWF, DAT).

***Hyltiota flavigaster* Yellow-bellied Hyltiota** E: at least 5 resident throughout the year around the Osiriwa escarpment and Kichwa Tembo, Mara GR (BWF).

***Sylvietta rufescens* Long-billed Crombec**: 1 seen and heard near Kasanga, SW Tanzania, 24 June (DM).

MUSCIPIDAE: FLYCATCHERS

***Muscicapa gambagae* Gambaga Flycatcher** R: 1 juvenile caught and ringed at night Ngulia 25 Nov (DJP).

***Muscicapa lendu* Chapin's Flycatcher** R: 2 Kakamega Forest 8 Sep (TS) and 1 with nest material there 30 Nov (DJP, DAT).

***Myioparus plumbeus* Lead-coloured Flycatcher** E: singles Lake Baringo Apr–Aug (TS).

MOTACILLIDAE: WAGTAILS AND PIPITS

***Anthus similis* Long-billed Pipit** E: 1 Athi River area, Nairobi NP 14 Oct (DJP).

***Macronyx sharpei* Sharpe's Longclaw** R: several pairs with immatures near Timau Jun–Jul (TS).

MALACONOTIDAE: BUSH SHRIKES

***Dryoscopus pringlii* Pringle's Puffback** E: 1 Katilu near Lokichar 24 Mar (DJP).

PRIONOPIDAE: HELMET SHRIKES

***Prionops retzii* Retz's Helmet Shrike** E: in Meru NP 10+ 15 Aug and 15 on 10 Oct (DKR).

STURNIDAE: STARLINGS

***Cinnyricinclus sharpii* Sharpe's Starling** E: 1 Kichwa Tembo, Mara GR

with Violet-backed Starlings *C. leucogaster* during Aug (BWF).

***Speculipastor bicolor* Magpie Starling** R: a few Lake Baringo Feb–Mar (JPC), >20 Samburu GR 5 Apr (DKR), 20 near Lake Baringo 14 Aug (JMC).

NECTARINIIDAE: SUNBIRDS

***Nectarinia habessinica* Shining Sunbird** R: records from the Archer's Post–Wamba road and the Kito Pass (DAT, DJP, ADL).

PLOCEIDAE: WEAVERS

***Anomalospiza imberbis* Parasitic Weaver** R: 2 Nairobi NP 12 Apr (LCDF).

***Euplectes diadematus* Fire-fronted Bishop** RE: 4 Nguuni, near Mombasa 21 Oct (CR), 1 male Malindi 25 Nov (DW).

***Passer castanopterus* Somali Sparrow** R: pair nesting c. 22 km south of Lodwar 22 Mar (DJP, ADL, DAT).

***Hypochera purpurascens* Jameson's Firefinch Indigobird** E: male ringed Ngulia 9 Dec (GCB).

***Vidua obtusa* Broad-tailed Paradise Whydah** R: a few around Tatanda, SW Tanzania, Aug and Nov (DM).

ESTRILIDAE: WAXBILLS

***Lagonosticta rara* Black-bellied Firefinch** R: several Port Victoria 6–7 Aug (JMC).

***Mandingoa nitidula* Green-backed Twinspot** E: 3 ringed Ngulia 6 Nov (GCB).

***Ortygospiza locustella* Locust Finch** R: Seen and heard near Tatanda, SW Tanzania, Aug, Nov and Dec and a female caught and ringed after dark 21 Nov (DM).

FRINGILLIDAE: BUNTINGS AND FINCHES

***Emberiza striolata* House Bunting** R: c. 12 Hurran Hurra well, east side of Lake Turkana, Aug (FA).

***Linurgus olivaceus* Oriole Finch** E: at least two pairs of the race *kilimensis*, Ol Doinyo Orok, 22–24 Mar (LAB, CMG, JD, FN). First record of this race for Kenya.

Palearctic species

***Ixobrychus minutus minutus* Little Bittern** R: 1 Kichwa Tembo, Mara GR 7 Nov (BWF).

***Ciconia ciconia* White Stork** N: 3000+ at an armyworm *Spodoptera exempta* concentration at Babati (northern Tanzania) 26 Feb; 1000+ Mara GR 13–15 Mar and again 26–27 Dec; 1000+ Amboseli 19–20 Dec (DAT).

***Ciconia nigra* Black Stork** R: recorded Nairobi area, Marich Pass, Suguta, Samburu GR, Marsabit, Aberdares, Mara GR and Kibwezi; ones and twos only, up to 27 Mar and from 24 Oct (many observers).

***Anas acuta* Pintail** N: c. 1100 Simini's Dam, Kinangop 1 Feb (DJP). E: c. 20 near Idsowe, Garsen 22 Feb (LDCF).

***Anas clypeata* Shoveler** E: 9 Gorongoro, Tanzania, 10 Feb (DKR).

Anas crecca Teal R: recorded only at Lake Naivasha: up to 1 Feb (max 18+) and from 9 Nov (max 10+) (DJP, DEW).

Anas penelope Wigeon R: at Lake Naivasha up to 21 Feb (max 10+) and 2 there 29 Nov; 11 Simini's Dam, Kinangop 1 Feb and 1 Lake Baringo 8 Dec (DJP, LDCF, TS).

Aythya fuligula Tufted Duck R: 3 males and 2 females Thika OPs 26 Jan (LDCF).

Aythya nyroca Ferruginous Duck S(B): 2 females Naivasha 19 Jan and 1 male there 19 Oct (DJP).

Circus aeruginosus Eurasian Marsh Harrier D: an early bird at Lake Nakuru 28 Sep (ADL).

Accipiter nisus Eurasian Sparrowhawk S(B): an immature female Kabete 18 Jan (DJP). Full details received; accepted by the RBC.

Aquila heliaca Imperial Eagle S(B): a sub-adult Mara GR 19 Nov (DEW) and an adult Ngulia 25 Nov (DJP). Full details of both received.

Aquila nipalensis Steppe Eagle N: 110+ moving north Timau 6 Nov (DEW) and c. 60 there on 7 Nov (DJP, AEB). Hundreds near Arusha (Tanzania) 9 Feb (DKR). D: an early bird Ologesaillie 5 Oct (DJP).

Aquila pomarina Lesser Spotted Eagle R: recorded up to 10 Feb and from 6 Nov, with largest numbers c. 20 Timau 7 Nov (DJP, AEB) and 20 near Arusha (Tanzania) 9 Feb (DKR).

Hieraaetus pennatus Booted Eagle R: recorded Kakamega, Saguta, Timau, and Tsavo; single birds only, up to 29 Mar and from 20 Oct (several observers).

Pernis apivorus Honey Buzzard R: one Kakamega 30 Mar (LDCF) and 1 Sokoke 2 Nov (DJP) were the only records received.

Falco amurensis Eastern Red-footed Falcon R: 1 east Laikipia 8 Nov (DEW); 1 Ngulia 29 Nov (DJP, AR, DAT); 250+ flying in to roost Ngulia valley 4 Dec (DJP).

Falco concolor Sooty Falcon R: singles Naivasha 28 Oct and 19 Nov (MACC), Manyani 31 Oct (DJP) and Ngulia 4 Nov (GCB).

Falco eleonorae Eleonora's Falcon S(B): 1 Timau 6 Jan (DKR); 1 Ngulia 28 Nov (VH).

Crex crex Corncrake R: 2 Ngulia 8 Dec (GCB).

Anthropoides virgo Demoiselle Crane S(A): 8 adults and 1 immature, Ngomeni, 15 Jan (L.A.S. Grumbley).

First Kenya and East African record

Porzana porzana Spotted Crane S(B): 2 on small pond 20 km east of Lodwar 18 and 21 Mar (DJP, ADL, DAT).

Haematopus ostralegus Oystercatcher R: 1 Malindi 21–31 Jan and 2 there 12 and 15 Mar (LDCF, PGS, HAG).

Charadrius alexandrinus Kentish Plover R: 5 Ferguson's Gulf 19 Mar and 3 Eliye Springs 20 Mar (DJP, ADL).

Charadrius dubius Little Ringed Plover R: recorded to 27 Apr and from 19 Oct from Naivasha, Nakuru, Menengai area, Baringo, Saguta, the Athi and Tana rivers and Mombasa; max 15+ Naivasha 22–24 Dec, 10 Saguta 29 Dec (BB, MACC, LDCF, DJP, TS, DEW).

Charadrius leschenaultii Greater Sandplover E: inland: 1 Ferguson's Gulf 19 Mar (DJP, ADL).

- Charadrius mongolus* Mongolian Sandplover** E: inland: 9 Ferguson's Gulf 19 Mar (DJP, ADFL).
- Pluvialis dominica* Lesser Golden Plover** S(B): 7 at usual site at Lake Bilisa 22 Feb (LDCF).
- Pluvialis squatarola* Grey Plover** E: inland: 27+ Ferguson's Gulf area 19 Mar, and 21 Eliye Springs 20 Mar (DJP, ADL).
- Numenius phaeopus* Whimbrel** E: inland: 1 Lake Naivasha 30 Mar (DJP).
- Tringa erythropus* Spotted Redshank** R: recorded to 26 Apr and from 3 Nov at Lakes Naivasha, Baringo and Nakuru and at Kinangop, Mugie, Mara GR, Thika and Ahero, max c. 20 Lake Naivasha late Dec; also 1 Shakababo 13 Mar (LDCF, DJP, DKR, DAT, DEW, TS).
- Xenus cinereus* Terek Sandpiper** E: inland: singles Lake Naivasha 19 Jan, 1 Feb and 2 19 Oct; 1 Ferguson's Gulf 19 Mar; 1 Samburu GR 7 Nov (LDCF, ADL, DJP, DEW).
- Gallinago media* Great Snipe** R: 1 near coast at Lake Kenyatta 14 Mar (LDCF); 1 Lake Baringo 2 May (TS); 1 Nairobi 31 Oct (DJP).
- Lymnocyrtus minimus* Jack Snipe** S(B): singles Lake Baringo 29 Nov and Mogotio 30 Nov (TS).
- Calidris alba* Sanderling** E: inland: 27 counted Ferguson's Gulf 19 Mar (ADL, DJP).
- Calidris temminckii* Temminck's Stint** R: recorded from Lakes Naivasha, Nakuru and Baringo, Kinangop, Suguta and Mombasa, up to 26 Apr and from 9 Nov, max 15+ Lake Naivasha late Dec (MACC, LDCF, DJP, TS).
- Limicola falcinellus* Broad-billed Sandpiper** R: 34 counted Sabaki River mouth 24 Nov (DEW).
- Limosa lapponica* Bar-tailed Godwit** R: 1 inland at Lake Naivasha 13 Apr (DJP). 1 Galu beach 12 Nov (DJP).
- Limosa limosa* Black-tailed Godwit** R: recorded to 26 Apr and from 18 Oct, from Lakes Naivasha and Nakuru, Saguta, Lower Tana River, and Ahero: numbers at Lake Naivasha rose to over 300 by end of the year, an unprecedented count in the southern rift (LDCF, MACC, DEW, DJP). Also 1 on coast at Sabaki River mouth 24 Nov (DEW).
- Arenaria interpres* Turnstone** E: inland: 1 Kataboi, west Lake Turkana 21 Mar (ADL, DJP). 1 Lake Nakuru 12 Nov (DEW).
- Phalaropus lobatus* Red-necked Phalarope** R: 1 Lake Nakuru 6 Jan (PGS, HAG).
- Burhinus oediconemus* Stone Curlew** R: singles Lake Baringo 16 and 23 Dec (TS).
- Stercorarius pomarinus* Pomarine Skua** S(B): 1 Malindi 21 Jan (PGS, HAG).
- Larus genei* Slender-billed Gull** S(B): 6 Eliye Springs 20 Mar (ADL, DJP); a single adult Lake Naivasha 9 and 26 Apr (DKR, DJP); 2 adults Lake Nakuru 14 Nov (DJP, DAT).
- Larus ichthyæetus* Great Black-headed Gull** R: 2 sub-adults Malindi 21–26 Jan (PGS, HAG) and 1 there 23 Feb (LDCF).
- Sterna sandvicensis* Sandwich Tern** S(B): 1 Malindi 24 and 26 Jan (PGS, HAG).

- Caprimulgus europaeus* Eurasian Nightjar** R: recorded mid Apr Nairobi (Karen) and Kiambere (BB, JRPC); 6 ringed Ngulia 2–26 Nov (GCB, DJP).
- Coracias garrulus* Eurasian Roller** DN: 100s moving SE Voi/Ndara Ranch area as early as 1 Nov (DJP).
- Upupa epops* Hoopoe** RE: a Palearctic bird Solai 8 Dec (MACC).
- Luscinia megarhynchos* Nightingale** E: several in song Ewaso Nyiro, Samburu GR, late Dec (DJP); singing at Island Camp, Lake Baringo, Jan to early Mar (TS).
- Luscinia luscinia* Sprosser** E: 2 singing, presumably wintering, Bissel 16 Mar (AEB, DJP); on northward passage, 2+ Tawa (Machakos) 4 Apr, scores Mwatate–Bura area (Taita Hills) 7 Apr, 2 Kiambere 12 Apr and 2 there 17 Apr (BB, DJP).
- Irania gutturalis* Irania** E: 1 Nyambenis above Meru NP 4 Mar and 1 in song Kajiado 1 Apr (DJP); 1–2 Kiambere 12–18 Apr and 2 there 29 Nov (BB).
- Acrocephalus arundinaceus* Great Reed Warbler** ER: 2 near Mwatate (Taita Hills) 7 Apr; common Mara GR 9–13 Apr; c. 6 Amboseli 22–23 Apr; up to 4 Kiambere 12 Apr to 3 May (BB, DJP, DKR, TS). More records than usual on southward passage: 2 Kiambere 29 Nov; 4 ringed Ngulia 7 Dec after a night of exceptionally heavy rain; 2–3 in heavy rain Olorgesailie 7 Dec; 7–8 in large fall of migrants Kichwa Tembo 7 Dec and 1 there 8 Dec (BB, DJP, GCB, BWF, DAT).
- Acrocephalus griseldis* Basra Reed Warbler** R: 5–6 Lake Kenyatta 14 Mar (LDCF). 57 ringed Ngulia between 2 Nov and 10 Dec (GCB, DJP); 2 Kiambere 29 Nov (BB).
- Acrocephalus palustris* Marsh Warbler** ER: northward passage records: 4+ Taita Hills 7 Apr (DJP), 1–2 Kiambere 16 Apr to 7 May (BB).
- Acrocephalus schoenobaenus* Sedge Warbler** M: 300+ in large fall of migrants Kichwa Tembo 7 Dec (BWF).
- Acrocephalus scirpaceus* Reed Warbler** M: 100+ in large fall of migrants Kichwa Tembo 7 Dec (BWF).
- Hipplais icterina* Icterine Warbler** R: 1 singing Kalakol River, Ferguson's Gulf, 21 Mar (DJP, DAT, ADL). 1 caught and ringed Ngulia 7 Dec (GCB, DJP).
- Hipplais languida* Upcher's Warbler** E: 1–2 daily Lake Baringo Jan–Feb (TS), 1 Olorgesailie 19 Mar (LAB), small numbers Kiambere 14 Apr to 2 May (BB).
- Hippolais olivetorum* Olive-tree Warbler** R: 1 Kiambere 12 Apr (BB). 2–3 near Isiolo 7 and 8 Nov (DJP, AEB); 10 ringed Ngulia between 2 Nov and 4 Dec (GCB, DJP); 1 Kichwa Tembo 6 Dec (BWF).
- Hippolais pallida* Olivaceous Warbler** D: a late bird Kiambere 14 May (BB).
- Locustella fluviatilis* River Warbler** R: 4+ recorded and song heard along Ewaso Nyiro, Samburu GR, 28 Dec (DJP). 202 ringed Ngulia between 2 Nov and 10 Dec (GCB, DJP).
- Phylloscopus collybita* Chiffchaff** R: 2 singing Aberdares NP above North Kinangop 11 Jan (LCDF).
- Phylloscopus sibilatrix* Wood Warbler** S(B): 1 Kichwa Tembo, Mara GR 7 Dec (BWF).

***Sylvia communis* Whitethroat** D: 2 Kiambere 14 May and 5 on 15 May (BB).
E: 4 Kichwa Tembo, Mara GR 7 Dec and 8 Dec (BWF).

***Sylvia nisoria* Barred Warbler** R: recorded from the usual areas; late birds
Kiambere 14–18 Apr (BB).

***Ficedula albicollis* Collared Flycatcher** R: 2 Mara GR 11 Apr (DKR).
Singles Kakamega 13 and 15 Nov and Lake Nakuru 16 Nov (DJP, DKR).

***Ficedula* sp.** 1 Kichwa Tembo, Mara GR, 26 Oct (BWF, ADL).

***Motacilla alba* White Wagtail** R: 4+ on dams north of Menengai 27 Jan (DJP,
MACC). 3+ Mogotio mid–end Nov (TS).

***Motacilla cinerea* Grey Wagtail** E: male Ngulia 1–3 Nov (GCB).

***Lanius isablinus* Red-tailed Shrike** D: 1 Kiambere 1 May (BB) was excep-
tionally late.

***Lanius nubicus* Nubian Shrike** S(B): 1 Lake Baringo from 8 Nov to end of the
year (ADL, DEW, TS *et al.*).

***Emberiza hortulana* Ortolan Bunting** S(A): 1 Taita Hills Lodge, 7 Jan (DAZ;
photographs and full details received; accepted by RBC).

*Second Kenya and East Africa record—the first was at Lake Baringo
on 15 Oct 1910*

BACK RECORDS

***Diomedea cauta* Shy Albatross** S(A): an immature of the nominate race, 7 Sep
1985 Mtwara, southern Tanzania (D. and C. Watt; photograph and full details
received; accepted by RBC).

First record for Tanzania and East Africa

***Fregata ariel* Lesser Frigatebird** one on a date between 12 and 15 Jan 1980,
Watamu, north Kenya coast (L. Grant; see *Scopus* 9: 110–111).

First record for Kenya

***Mirafrja gilletti* Gillett's Lark** at least 14 collected by C.F. von Erlanger in
May 1901 in north-east Kenya; see Miskell & Ash (1985), *Scopus* 9: 53–54.

First records for Kenya

***Trochocercus albiventris* White-bellied Crested Flycatcher** S(B): 1
trapped Impenetrable (Bwindi) Forest, SW Uganda 7 Sep 1984 (LAB); see
Scopus 10: 87–91.

***Malaconotus lagdeni* Lagden's Bush Shrike** S(A): 4 seen Impenetrable
(Bwindi) Forest, south-west Uganda Sep 1984 (LAB); see *Scopus* 9: 11–114.

The following seven species—all new for the country—recorded in Minziro
Forest, north-west Tanzania in early December 1984, were dealt with by Baker
& Hirslund (*Scopus* 11: 9–12) but were not submitted for the 1984 Bird Report:

***Trichastoma albipectus* Scaly-breasted Illadopsis**

***Bleda eximia* Green-tailed Bristlebill**

***Phyllastrephus xavieri* Xavier's Greenbul**

***Ixonotus guttatus* Spotted Greenbul**

***Alethe diademata* Fire-crested Alethe**

***Sheppardia cyornithopsis* Akalat**

***Nesocharis ansorgei* White-collared Olive-back**

First and last dates of some Palaearctic migrant landbirds
(mostly from Central and SE Kenya)

<i>Species</i>	<i>Last date</i>	<i>First date</i>
<i>Cuculus canorus</i>	24.04 Athi River	—
<i>Merops apiaster</i>	10.04 Kajiado	10.09 Nakuru
<i>Coracias garrulus</i>	03.05 Athi River	20.10 Suguta
<i>Riparia riparia</i>	11.05 Naivasha	21.09 Naivasha
<i>Delichon urbica</i>	20.04 Naivasha	19.09 Athi River
<i>Oriolus oriolus</i>	23.03 Shimba Hills	19.10 Naivasha
<i>Cercotrichas galactotes</i>	18.04 Kiambere	02.11 Ngulia
<i>Irania gutturalis</i>	18.04 Kiambere	02.11 Ngulia
<i>Luscinia luscinia</i>	17.04 Kiambere	01.10 Voi
<i>L. megarhynchos</i>	06.04 Tiwi	21.10 Nairobi
<i>Monticola saxatilis</i>	15.04 Kiambere	31.10 Nairobi
<i>Oenanthe isabellina</i>	10.04 Kajiado	05.10 Ngong Hills
<i>O. oenanthe</i>	13.04 Kiambere	09.09 Nairobi
<i>O. pleschanka</i>	12.04 Kiambere	19.10 Naivasha
<i>Acrocephalus arundinaceus</i>	03.05 Kiambere	29.11 Kiambere
<i>A. griseldis</i>	—	02.11 Ngulia
<i>A. palustris</i>	07.05 Kiambere	01.11 Ngulia
<i>A. schoenobaenus</i>	14.05 Kiambere	30.10 Athi River
<i>A. scirpaceus</i>	—	02.11 Ngulia
<i>Hippolais languida</i>	02.05 Kiambere	02.11 Ngulia
<i>H. olivetorum</i>	12.04 Kiambere	02.11 Ngulia
<i>H. pallida</i>	14.05 Kiambere	29.10 Nairobi
<i>Locustella fluviatilis</i>	—	02.11 Ngulia
<i>Phylloscopus trochilus</i>	03.05 Athi River	14.09 Mara GR
<i>Sylvia atricapilla</i>	23.03 Kakamega	06.11 Nairobi
<i>S. borin</i>	—	02.11 Ngulia
<i>S. communis</i>	15.05 Kiambere	29.10 Nairobi
<i>S. nisoria</i>	18.04 Kiambere	01.11 Ngulia
<i>Muscicapa striata</i>	24.04 Athi River	18.10 Athi River
<i>Anthus cervinus</i>	—	01.11 Ngulia
<i>A. trivialis</i>	10.04 Kajiado	02.11 Ngulia
<i>Motacilla cinerea</i>	—	01.11 Ngulia
<i>M. flava</i>	11.05 Naivasha	19.09 Athi River
<i>Lanius collurio</i>	06.05 Kiambere	01.11 Ngulia
<i>L. isabellinus</i>	01.05 Kiambere	01.11 Ngulia and Voi
<i>L. minor</i>	02.05 Kiambere	—

List of Observers

F. Alexander	M. Hemphill
G.C. Backhurst	P. Hemphill
L.A. Bennun	S. Hemphill
Z. Bhatia	V. Holmgren
B. Boothroyd	A.D. Lewis
A.E. Butterworth	D. Moyer
J.M. Clark	F. Ng'weno
M.A.C. Coverdale	D.J. Pearson
J.R.P. Cumberlege	D.K. Richards
J. Darlington	A. Root
H.A. Gaasbeek	C. Ryall
J. Falkland	P.G. Schrijvershof
B.W. Finch	T. Stevenson
L.D.C. Fishpool	D.A. Turner
C.M. Gichuki	D.E. Wolf
B. Gregory	P. Wooton
C. Griffiths	

EAST AFRICAN RARE BIRDS COMMITTEE

During 1987 the committee was asked to adjudicate on a number of records. The following were accepted:

***Diomedea cauta* Shy Albatross:** 1, Mtwara Fish Market, southern Tanzania, 7 Sep 1985 (D. and C. Watt).

***Accipiter nisus* Eurasian Sparrowhawk:** 1, Kabete 18 Jan 86 (DJP).

***Anthropoides virgo* Demoiselle Crane:** 8 adults and 1 immature, Ngomeni, near Malindi, 15 Jan 86 (L.A.S. Grumbley *et al.*).

***Emberiza hortulana* Ortolan Bunting:** 1, Taita Hills Lodge, 7 Jan 86 (DAZ).

The following records were not accepted:

***Botaurus stellaris* Bittern:** singles Amboseli NP 12 Dec 86 and Mara GR 24 Dec 86.

***Tadorna ferruginea* Ruddy Shelduck:** 1 Laikipia plateau 20 Dec 86.

***Locustella naevia* Grasshopper Warbler:** 1 Kisumu 16 Nov 85.

The members of the Rare Birds Committee are:

J.S. Ash	R.J. Dowsett
B.W. Finch	D. Fisher
S.C. Madge	G. Nikolaus
D.J. Pearson	A.J. Prater
J.C. Sinclair	T. Stevenson
D.A. Turner	D.A. Zimmerman

RINGING AND MIGRATION AT NGULIA, TSAVO, AUTUMN 1986

G.C. Backhurst and D.J. Pearson

Twenty-seven nights, in two periods, from 1 November to 11 December, were spent at Ngulia Safari Lodge studying the southward migration. A total of 6161 Palaearctic birds was caught and ringed on 23 of these dates—the fifth highest total in 18 years of cover. As mentioned in the 1985 report (Backhurst & Pearson 1987) we used our own 1 kW light to augment those of the Lodge.

The season was marked by some of the wettest weather experienced in Tsavo for many years. On some nights torrential rain prevented any netting while on other occasions, torrential rain in the day was followed by a clear mist-free night. The Lodge was cut off from the rest of the park on 7 December because of impassable roads.

Netting at Ngulia in the 1970s was frequently constrained by the presence of large mammals—elephant *Loxodonta africana*, rhino *Diceros bicornis*, buffalo *Syncerus caffer* and sometimes lions *Panthera leo*. In recent years the rhino has all but disappeared as a visitor to the Lodge and elephant and buffalo numbers have been much lower during the periods when netting has taken place. This year the Lodge had constructed a concrete and stone platform on which meat was put every evening at about 18:00 to attract leopards *Panthera pardus*. This has proved to be highly successful and justifiably popular with the tourists. In addition to leopards, honey badgers *Mellivora capensis* (up to four together), striped hyaena *Hyaena hyaena* and spotted hyaena *Crocuta crocuta* have also been seen eating the meat. Even though the structure was built in the middle of the night net ride, it is doubtful if it had much effect on the number of birds caught: usually the meat had been eaten before netting began.

There had been some heavy rain and mist on the night of 30/31 October just before the first visit, and there were reports of "many birds" down on that night. The night of 31 October–1 November was completely clear but there was still a scattering of small migrants in the almost leafless bush to the south of the Lodge after dawn and these had presumably remained from the fall of 24 h before.

During the early November visit, from 1st to 9th, there was little prolonged mist at night and resulting catches were rather small. An immaculate male Grey Wagtail *Motacilla cinerea* outside the staff village on 1st and 2nd was new for the Lodge and a Red-throated Pipit¹ caught there on 1st was the first to be ringed at Ngulia although the species has been recorded in ones and twos in most years. All the main species were caught in this first week with Sprosser (327 ringed) leading Whitethroat (213) and Marsh Warbler (134).

The second visit of 16 nights was from 24 November through to 10 December and reasonable falls occurred on all but two of these nights. Whitethroats were just in the majority (1844 ringed) followed by Marsh Warbler (1723) and Sprosser (1054) with the traditional fourth species, the River Warbler, coming in rather later than usual at 192.

Overall, the 'minor species' varied widely in numbers. Ten Eurasian Rollers caught was well above average as were the 127 Iranias and 62 Barred Warblers. Torrential rain at night on 6/7 December and then again throughout the day of 7th severely curtailed netting activity but the catch was notable in including all

¹Scientific names are given in Table 1

Table 1 Numbers of Palaearctic night migrants ringed at Ngulia Safari Lodge between October and February in the years 1969-1987*

Species	1986/7* total	%*	Total 1969- 1987*
Eurasian Nightjar <i>Caprimulgus europaeus</i>	6	34	250
Eurasian Roller <i>Coracias garrulus</i>	10	304	48
Eurasian Swallow <i>Hirundo rustica</i>	1	10	136
Rufous Bush Chat <i>Cercotrichas galactotes</i>	34	63	804
Iranian <i>Irania gutturalis</i>	127	131	1497
Sprosser <i>Luscinia luscinia</i>	1381	135	15755
Nightingale <i>L. megarhynchos</i>	30	83	534
Rock Thrush <i>Monticola saxatilis</i>	9	111	123
Isabelline Wheatear <i>Oenanthe isabellina</i>	3	56	78
Northern Wheatear <i>O. oenanthe</i>	8	110	110
Pied Wheatear <i>O. pleschanka</i>	11	416	48
Great Reed Warbler <i>Acrocephalus arundinaceus</i>	4	181	35
Basra Reed Warbler <i>A. griseldis</i>	57	123	709
Marsh Warbler <i>A. palustris</i>	1857	98	28452
Sedge Warbler <i>A. schoenobaenus</i>	5	—	84
Reed Warbler <i>A. scirpaceus</i>	2	42	70
Icterine Warbler <i>Hippolais icterina</i>	1	—	4
Upcher's Warbler <i>H. languida</i>	15	74	303
Olive-tree Warbler <i>H. olivetorum</i>	10	45	322
Olivaceous Warbler <i>H. pallida</i>	30	122	377
River Warbler <i>Locustella fluviatilis</i>	202	105	2921
Willow Warbler <i>Phylloscopus trochilus</i>	72	77	1384
Blackcap <i>Sylvia atricapilla</i>	1	—	49
Garden Warbler <i>S. borin</i>	16	46	506
Whitethroat <i>S. communis</i>	2060	142	22559
Barred Warbler <i>S. nisoria</i>	62	168	585
Spotted Flycatcher <i>Muscicapa striata</i>	35	75	690
Red-throated Pipit <i>Anthus cervinus</i>	1	—	1
Tree Pipit <i>A. trivialis</i>	3	—	23
Red-backed Shrike <i>Lanius collurio</i>	64	114	852
Red-tailed Shrike <i>L. isabellinus</i>	43	93	700
Number of species	31	—	31
Total ringed	6161		80009

* 1986/87 season—but no ringing done in January or February 1987

** The autumn 1986 total expressed as a percentage of the mean of the 14 years 1972/73 to 1985/86 for each species.

Totals of Palaearctic species ringed in previous autumn seasons but not in this

Continued opposite

five Palaearctic *Acrocephalus* species, including four Great Reed Warblers and also an Icterine—only the fourth for the site.

Only one Palaearctic bird ringed at Ngulia in a previous season was retrapped this year: a Red-tailed Shrike originally ringed on 4 December 1983 was retrapped for the second and third times on 2 and 7 December 1986; it had been previously retrapped on 12 December 1985. A local breeding species, the Striped Swallow *Hirundo abyssinica* ringed as an adult on 15 December 1980 was retrapped on 3 December this year.

Afrotropical birds judged to have been attracted to the lights were, as always, rather few. Six Somali Golden-breasted Buntings *Emberiza poliopleura* caught just after dawn on 4 December were noteworthy, as was a Gambaga Flycatcher *Muscicapa gambagae* at night on 25 November and an example of the northern race *lorti* of the Lilac-breasted Roller *Coracias caudata* at night on 10 December—the first record of this subspecies for Ngulia.

Acknowledgements

As always, we are most grateful to the Warden of Tsavo National Park (West) for allowing us to ring birds in the park and to the management of Ngulia Safari Lodge and African Tours and Hotels Ltd. for assistance with accommodation and help in other ways. The Ngulia Ringing Group this year, in addition to the authors, comprised Anna Forbes-Watson (18 nights), Adan Alio (2), Daphne Backhurst (4), Neil Baker (1), Leon Bennun (3), Liz Boswell (1), Geoff Carr (3), Miles Coverdale (1), Ron Darwent (3), Alec Forbes-Watson (1), Valde Holmgren (2), Judy Katz (1), Rosalie Osborn (2), Maggie Pearson (4), Tony Potterton (4), Peter Squelch (4) and Oscar Wambugua (2). Thanks to all these people for making a success of a season that was very often characterized by severe and unpleasant weather conditions.

Reference

- BACKHURST, G.C. & PEARSON, D.J. 1987. Ringing and migration at Ngulia, Tsavo, autumn 1985. *Scopus* 9: 159–162.

Table 1 continued

year are as follows: Little Bittern *Ixobrychus m. minutus* 4, Eleonora's Falcon *Falco eleonora* 1, Corncrake *Crex crex* 7, Spotted Crane *Porzana porzana* 1, Great Snipe *Gallinago media* 1, Eurasian Cuckoo *Cuculus canorus* 2, Lesser Cuckoo *C. poliocephalus* 1, Eurasian Scops Owl *Otus scops* 5, Sand Martin *Riparia riparia* 6, Golden Oriole *Oriolus oriolus* 13, Redstart *Phoenicurus phoenicurus* 3, Whinchat *Saxicola rubetra* 2, Savi's Warbler *Locustella luscinioides* 1, Wood Warbler *Phylloscopus sibilatrix* 2, Yellow Wagtail *Motacilla flava* 3, hybrid Red-backed/Red-tailed Shrike *Lanius collurio* x *isabellinus* 9.

From December 1969 a total of 80 070 Palaearctic night-migrating birds of 46 species has been ringed at Ngulia during southward passage between October and February.

Correction

In the report for the 1985/86 season (*Scopus* 9: 159–162) there was a mistake in Table 1. The second footnote should have read as follows:

“** The autumn 1985 total expressed as a percentage of the mean of the 13 years 1972/73 to 1984/85 for each species.” GCB is sorry for this mistake.

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Scopus 10 (5): 133–136, April 1988

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East African Bird Report

This normally forms the fifth issue of *Scopus* and each report covers one calendar year and relates just to the birds of Kenya, Tanzania and Uganda. Records of Afro-tropical and Oceanic birds should be sent to D.A. Turner, Box 48019, Nairobi; Palaearctic bird records should be sent to Dr D.J. Pearson, Department of Biochemistry, University of Nairobi, Box 30197, Nairobi. Records should be sent in early in the new year to ensure the speedy production of the Report. Sightings of rare birds may be telephoned through to any OSC member (numbers inside the front cover) in the hope that the bird(s) may be seen by others. Criteria covering the submission of Bird Report records are given in *Scopus* Supplement, June 1982, and copies may be obtained from D.A. Turner. Records of rare birds are vetted by the independent and internationally-based East African Rarities Committee.

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